MARCH, 1957 • 20c

Better Farming Methods

For Vo-Ag Teachers, County Agents, Soil Conservationists, and Extension Specialists

Agricultural Husbandry Issue

Lilly **FEEDLOT INTERVIEW WITH HENRY TIETJENS, BRYANT, IOWA**

"...my gains on 'Stilbosol' feeds are 4¢ per pound cheaper...

That's the difference between profit and loss these days!"

As told to Eugene S. Hahnel

Henry Tietjens is a careful, experienced cattle feeder from near Bryant, Iowa. He generally feeds about 200 head a year on his 300-acre farm. The 1955-56 feeding season was his second using 'Stilbosol'-fortified supplements.

Mr. Tietjens *knows* exactly what his gains and costs are because he weighs his cattle regularly to keep track. It was his own set of records that sold him on the value of including supplements with 'Stilbosol' in his rations.

"'Stilbosol'-fortified supplements increased my gains from 2.75 pounds per day to 3.14 pounds per day," Mr. Tietjens reports. "I could increase my gains in other ways, but the 'Stilbosol' way is much cheaper. I figure my gains are 4¢ per pound cheaper. That's the difference between profit and loss these days. I can't afford *not* to keep feeding 'Stilbosol.'"

Commenting on how much help was provided by his feed manufacturer, Tietjens says, "I could name several ways my feed manufacturer helps me. One way is to help me plan my management through a farm inventory. And, of course, they make sure I receive the latest feeding information that can help me increase my profits."

After a cattle-weighing session, Tietjens (left) and his feed manufacturer's representative, Harvey Schmidt, change guesses to facts by figuring gains and cost of gains on his cattle.

The average daily feedlot ration fed by Henry Tietjens consists of 15 pounds corn silage, 13 lbs. corn (half shelled, half corn-cob meal), 4 lbs. hay, and supplement fortified with 'Stilbosol.'

Stilbosol

(Diethylstilbestrol Premix, Lilly)

Lilly

'Stilbosol' is Eli Lilly and Company's trademark for Diethylstilbestrol Premix which is manufactured and sold under exclusive license granted by Iowa State College Research Foundation, Inc., under its U. S. Patent No. 2751303.

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Sudbury Soil Test Kit

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Widely used by county agents, VO-AG instructors, agricultural colleges, government departments, farmers, nurseries, florists and thousands of enthusiastic amateur gardners. Approved for government purchase to supply ex-GI students.

Makes approximately 200 individual tests for nitrogen, phosphorus, potash and acidity.

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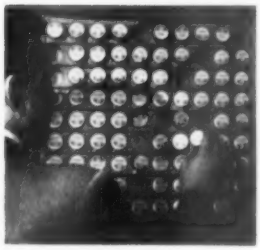

A convenient place to keep filmstrips . . . out where they can be SEEN . . . displayed! Filmstrips are filed and kept in an organized manner. Hangs securely on the wall, flat, using two keyhole hangers. There are individual key-numbered compartments for 90 filmstrips in one WALLFILE unit. Gummed compartment labels are provided for the filmstrip can-tops. Here is a systematic method of keeping, filing and displaying filmstrips. Gets filmstrips used more. Made of heavy-gauge steel finished in an attractive silver-gray hammerloid. Size 17¾" H x 19½" W x 1¾" D. Approximate shipping wt. 7 lb.

Order N200-90 ..... ea. $17.70
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In old fashioned scales, you have to set the pointer, allowing for weight of pail. Then, if you want to weigh more than 30 lbs., you have to watch the two pointers rotate twice around the dial.

The Pelouze has a single adjustable pointer. It gives the exact weight with a single revolution of the pointer.

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C375 Mustang Pure Manila Rope Lariat, 4 strand 7/16" rope, 30 ft. long. Horn loop. With solid honda as illustrated $3.65
C376 Mustang Lariat with quick release honda 4.55
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C294A Blue Ribbon Lariat with Quick Release Honda 5.49

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C551B-40 Silk sisal rope lariat, 40 ft., ea. 3.69

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Pure manila lariat rope. Four strands 7/16" rope. Offered in 50 and 100 ft. lengths. Many stockmen use this rope with the quick-release honda below, where long lariats are required. Both lengths have clamped ends. Weights 5 and 10 lb.

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Coming Events

March 2-9—National 4-H Club Week.
March 6-8—National Agricultural Chemicals Association Meeting, Fairmont Hotel, San Francisco, Calif.
March 13—Twelfth Distillers Feed Conference, Sheraton Gibson Hotel, Cincinnati, O.
March 21-22—University of Maryland 1957 Nutrition Conference for Feed Manufacturers, Shoreham Hotel, Washington, D. C.
March 26-28—22nd Annual Chemurgic Conference of the Council for Agricultural and Chemurgic Research, Congress Hotel, Chicago, Ill.
March 27-29—North Central Branch, Entomological Society of America Meeting, Des Moines, Ia.
April 28-May 4—National Home Demonstration Week.
May 20-31—Ninth General Conference of the International Federation of Agricultural Producers, Purdue University, Lafayette, Ind.
May 26-June 2—Soil Stewardship Week.
June 9-12—National Plant Food Institute Meeting, The Greenbrier, White Sulphur Springs, W. Va.
June 10-29—Extension Summer School, University of Wisconsin, Madison.
June 10-29—Extension Summer School, Prairie View Agricultural and Mechanical College, Prairie View, Tex.
June 15-21—National 4-H Club Conference, Washington, D. C.
June 17-July 5—Extension Summer School, Colorado Agricultural and Mechanical College, Fort Collins.
June 23-26—50th Annual Meeting, American Society of Agricultural Engineers, Michigan State University, East Lansing.
June 24-July 12—Extension Summer School, University of Arkansas, Fayetteville.
June 26-29—52nd Annual Meeting, American Dairy Science Association, Oklahoma A & M College, Stillwater.
July 1-19—Extension Summer School, Cornell University, Ithaca, N. Y.
July 14-17—American Association of Agricultural College Editors Meeting, Colorado A & M College, Fort Collins.
July 20-23—National Audio-Visual Association Convention, Chicago.
August 3-9—NVATA National Convention, Philadelphia, Pa.
September 17-20—World's Conservation Exposition and Plowing Contest, Peebles, O.
October 13-17—National County Agents' Association Meeting, Boston, Mass.
October 20-25—National Safety Council Meeting, Chicago, Ill.
November 11-14—Annual Meeting, American Association of Land-Grant Colleges and State Universities, Denver, Colo.
November 21-23—Sixth National Agricultural Credit Conference of the American Bankers Association, Chicago.

Better Farming Methods

Professional Magazine for Leaders Who TRAIN and ADVISE Farmers.

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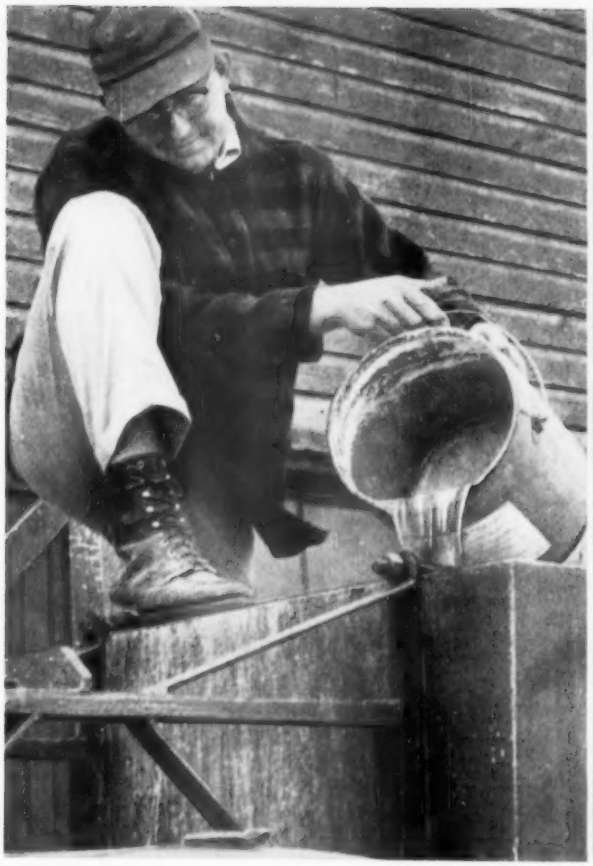


All insecticides should be handled safely ... malathion makes it easy

Ever wear a respirator on a hot July afternoon? It's a "must" when loading or applying most phosphate insecticides – *but not malathion.* Here's why it's "one of the safest insecticides to handle" (USDA)

Though malathion kills 82 insects on 47 crops, it is *low* in toxicity to man and animals. To handle it safely, follow the same simple precautions required for DDT. Respirators, special protective clothing are *not* required.

Avoid residue problems — Malathion's low toxicity to man has given it a *high* residue tolerance. Residues also disappear rapidly. That's why you can spray most crops as close as 72 hours from harvest *without residue problems.* It's the ideal way to control buildups of aphids and other pests close to harvest.

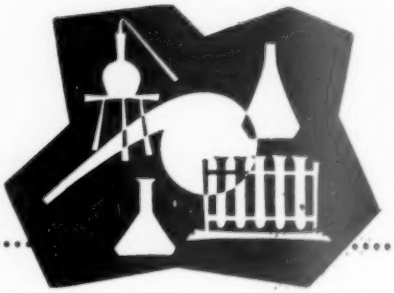
FREE Grower's Guide — Write American Cyanamid Company, Nitrogen and Allied Products Div., Dept. V2, 30 Rockefeller Plaza, New York 20, New York.

Malathion stops them all . . . plus 77 *other* insects attacking 47 crops!

CYANAMID

MALATHION insecticides have many uses on every kind of farm

Keeping up in AGRICULTURE



Separate Seeds by Electricity

Workers at Oregon State College reported a new method of seed cleaning based on the electrical properties of seed. In using this new separator, all crop and weed seeds are first classified according to electrostatic properties. Then the machine takes out those that differ from the crop seed. Naturally more experimental work will be done in the future, and this may give answers to other difficult separations that are now common in this operation.

Less Silage Loss When Covered

Two methods of storing silage have been studied by engineers at South Dakota State College. They have completed three years of experiments on chemical treatment of stored silage vs. metal or plastic covering. Their work shows that a good cover helps more in preventing weight loss than chemical treatment. After two months, silage in covered silos had lost only 10 percent of the original weight, while silage in the uncovered one had lost 62 percent. The figure was a 55 percent loss of original weight on chemical treated but uncovered silos.

Pentachlorophenol Helps Preserve Posts

Tests conducted at Oklahoma A & M College compared fence posts treated with a solution of 5 percent pentachlorophenol in Number 2 oil with untreated posts. The species were the same in each case, and were selected from such non-durable wood as willow, cottonwood, and blackjack oak. Approximately half of the untreated posts of all wood species lasted less than three years. After four years, 90 percent of them had failed. After five years, all the untreated posts had failed. However, those treated with pentachlorophenol showed no signs of deterioration.

Trimmed Trees May Spread Oak Wilt

Work at the University of Wisconsin by forest disease specialists indicates that oak trees should not be trimmed in late May and June. It seems as though wounded oaks are very susceptible to oak wilt fungus when new springwood vessels are developing. Sap-feeding insects carry the disease fungus from sick trees to healthy oaks, and sometimes fly several miles to feed. Such trimmed and wounded trees attract these insects. A new antibiotic, oligomycin, shows considerable promise in the control of this costly oak wilt disease.

Develop New Type Nail

From Virginia Polytechnic Institute comes a report that researchers have developed a new type nail. It will cut the cost of anchoring farm buildings to their foundations. The nail is a fluted, hardened high-carbon steel nail which can be used to fasten framing to the masonry foundation. It is designed to replace the conventional one-half inch steel bolt which has long been used for this purpose. The new masonry nails can be hand or machine-hammered into concrete without predrilling.

New Wheat Has Rust Resistance

Years of research by USDA and Missouri Agricultural Experiment Station workers has paid off. Leaf rust resistance found in a wild grass has been bred into wheat. This potent source for leaf rust resistance has been "fixed" into the Chinese Spring variety of common wheat. It has given resistance to all 22 rust races for which it has been tested. Very few varieties of wheat have strong resistance to any of the 22 rust races. However, some of the "second cousin" wild grasses are practically immune to leaf rust. One of these was used in transferring resistance to Chinese Spring wheat.

Phosphorus Helps Cattle Gain

Reports from experiments at Iowa State College indicate that cattle getting one-third more phosphorus than is usually recommended gained an average of nearly three pounds per day. This compared to about two and one-half pounds for those fed the normal amount. Reports are that cattle gained on less feed at less cost per pound of gain and they graded higher when slaughtered.

Beet Pulp Can Be Fed to Steers

Take beet pulp, add urea, and it results in steer gains about the same as for those fed soybean oilmeal. This is the result of two-year feeding trials at the University of Wyoming. In these tests, they added enough urea to the beet pulp before drying to raise the crude-protein content to about 12 percent. Feed cost per 100 pounds of gain for steers fed untreated beet pulp were similar to those fed soybean oilmeal. However, the higher levels of beet pulp in the ration decreased feed costs per unit of gain.

Use Superphosphate for Burley Beds

Scientists at the University of Kentucky report that 20 percent superphosphate is still the best source of phosphorus for burley tobacco beds. This helps counteract the sometimes killing effect of calcium cyanamide when this material is used as a weedkiller. This is better than limestone because this decreases soil acidity and the calcium in limestone is rather slowly soluble and does not release the calcium fast enough to be effective. Research shows that two to four pounds of 20 percent superphosphate per square yard in tobacco beds nullified the ammonia action of the calcium cyanamide chemical weedkillers.—*End*

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Spotlighting COMMUNICATION METHODS

to help ag leaders get farm people to accept new ideas

By Gerald McKay
Audio-Visual Specialist
University of Minnesota

Are You Listening?

Communication takes place only on a two way street. Telling or showing goes in one direction and listening goes in the other.

After you've explained to a farmer how to build a farrowing stall, the only way to find out if he understood is to listen to his response. A film showing how to wash a milking machine is not successful till you've listened to the questions of those who saw it.

In many cases, more time should be spent listening to one who seeks help than in telling or showing him. Careful listening is the only way to discover what his problem is and how he can be helped. Listening is half of communicating.

Slides in Three Minutes

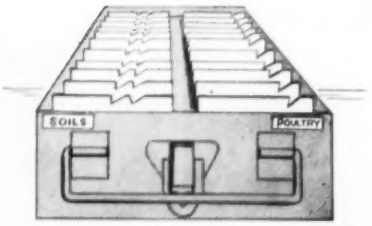
According to the Polaroid Corporation, slides ready to project can be made on a Polaroid Land camera in three minutes. With a technique something like that used for the one-minute snapshots, this camera will make either 3¼ x 4 or 2¼ x 2¼ sides, eight from each roll film. The latter size can, of course, be cut down to 35 mm size. Film has an emulsion speed rating of about 1000 ASA which makes it possible to photograph subjects indoors without auxiliary lighting.

This new camera apparently should have many potential uses in vo-ag or county agent work. Slides made on a field trip could be discussed immediately upon returning. Steps in a demonstration might be photographed and explained further at the conclusion of the demonstration. A livestock judging team would learn quickly about its mistakes if slides were used after judging sessions.

The camera is too new to report many actual experiences in the field of vo-ag or extension.

Train Junior Leaders To Operate Projectors

Whether you're an extension agent or agriculture instructor, it will save valuable time if younger leaders assume some of the responsibility for showing motion pictures. A training session can prepare all of your local 4-H leaders or FFA officers to do the routine operating of projectors. Of course, you'll still have to do the periodic oiling and other servicing of the machine as well as scheduling the shipment of films. And you must impress upon them the importance of proper film care.



Orville Thomas, vo-ag instructor, Sebeka, Minn., suggests a new use for pig ear notchers. They provide an excellent way to mark slides for easy filing and convenient projecting. He cuts a notch on the side for projector thumb mark or cuts off a corner for use in a handviewer. Various notch combinations may identify different fields of subject matter.

In a training session of two and a half hours, you can do these things:

- Discuss the importance of effective showings.
- Explain the system of getting and returning films.
- Demonstrate getting the room ready for showing a film.
- Demonstrate setting up a projection screen.
- Show the film "Facts About Film" or a similar one on the subject.
- Put a diagram on the board or show a slide on how to thread the projector.
- Divide the class into groups of four or five and let them practice setting up and threading the projector.
- Have a question period following the practice session.
- Give a short objective quiz to stimulate interest and see how well you have taught.
- Pass out mimeographed take-home material on the operation of projectors.
- Give a prize to the one who scores highest on the quiz.

If you work in extension, your state visual aids specialist can help you with materials for the training session. If you're in a high school, the audio visual coordinator will be glad to help you.

Make Graphs Simple

Picture graphs, bar graphs, and pie charts in that order, are probably the easiest to understand. Line graphs are more difficult although they are most effective in showing comparisons where two variables change. Implications which graphs make should be pointed out and explained if they are not immediately apparent.

In pie or circle graphs, percentages should be labelled, especially in sections which are about the same size. Bar graphs may be either vertical or horizontal. Vertical bars are usually easier for most people to understand.

The use of an additional color will often make a graph much easier to understand also.

Material for Transparencies

The new large overhead projectors have opened up a field of projection hitherto impossible. It is the field of large transparencies with color overlays.

Graphs, sectional maps, field layout, or furniture arrangement can be effectively shown by adding overlays to show the additions or changes.

A new commercial material called "Contak color tints" is effective in making these transparency overlays. The material is acetate and has one surface printed with a transparent permanent color. The reverse side is coated with water-clear pressure-sensitive adhesive, backed with an attached protecting sheet.

"Contak" adhesive has delayed action. It can be removed for correction, leaving no residue, but the longer it remains in place, the tighter it sticks. The adhesive contains no wax, and does not melt under extreme heat

"Contak" comes in 24 shades of color and is made in 9 x 12 and 16 x 21 inch sheets. It is manufactured by the Transograph Company, 30 West 15th St., New York 11, N.Y.

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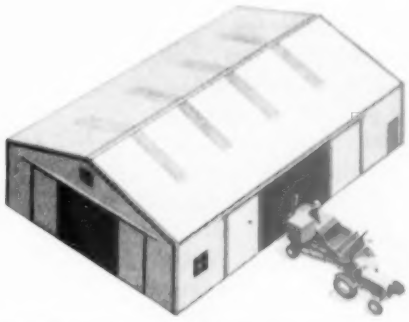

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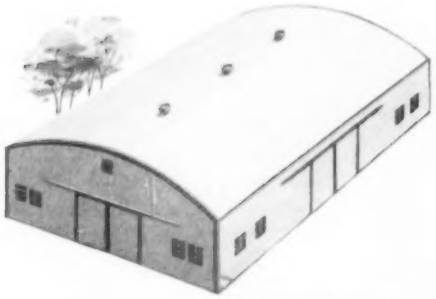
Quonset 32—Proved best for loose-housing or stanchion barns. Expand the "32" right along with your herd for maximum economy. Profits go up when used for grain storage, especially with a Quonset Grain Drying System.



Bow String Truss—Really low per-bushel cost for large volume grain storage. With a Quonset Cooling System, grain is extra safe. Provides maximum efficiency when used to centralize operations under one roof. 50′ or 60′ wide.

Quonset 20—A workhorse for economy! Ideal for grain storage, and available with Quonset Drying System. Serves as handy utility building for seed, feed, fertilizer and other supplies.

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Cleveland 16, Ohio, 20950 Center Ridge Rd.
Detroit 29, Mich., Tecumseh Rd.
Houston 5, Texas, 2444 Times Blvd.
Kansas City, Mo., 6 East 11th St.
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WASHINGTON NEWS

By Jay Richter
Agricultural Services

School Bill Gets Boost

Much more steam has been built up this year than last for passage of an area vocational school bill.

Passage would mean "an excellent opportunity for out-of-school young farmers," said Executive Secretary M. D. Mobley, American Vocational Association.

Jay Richter

Most significant development, perhaps, is a recent decision of the Land Grant College association. "We will support the bill," said the association's executive secretary, Russell I. Thackrey.

Land-grant college backing has come about through direct negotiations with AVA to eliminate certain features of last year's bill that had been opposed by the colleges. "The rewritten legislation upon which we have agreed this year," said Thackrey, "contains a specific prohibition against duplication under an area training program of work now being carried out through extension under the Smith-Lever Act."

The new bill was to be introduced on Capitol Hill just about the time you read this by Sen. Lister Hill of Alabama. An area school program will do much to build up the nation's number of technicians and help to ease our present "severe shortage of engineers and scientists . . . now being drawn into positions for which they are more than adequately trained," said Hill.

The legislation would establish area schools for training in agriculture, home economics, business, and trades. Instruction would be "of less than college grade" for both young people and adults.

Appropriations would be $5 million for the first year, $7½ million the second, and $10 million for the third, with Congress to set the ceiling thereafter. There would be 100 per cent matching of federal funds by the states after the third year. State matching of 75 per cent of the federal amount would be required in the second year. No state funds would be involved in the first year of operation.

Budget Is Deceiving

The federal budget for extension work in the 1958 fiscal year, starting next July 1, requires some second looks. It's not as fat as it may appear.

President Eisenhower's total farm budget request of more than $5¼ billion includes $64,130,000 for extension. That is about $10½ million more than for the current year, a substantial increase — on the surface. Actually, only about $4½ million of the extra amount is marked out for states, as follows: $3,050,000 to strengthen regular state Extension programs, $1,300,000 for the Rural Development Program to improve welfare of farm families in low-income areas, and $150,000 to expand marketing work by states.

The rest of the $10½ million increase breaks down this way: (1) $2,341,000 for the federal service; (2) $2,164,000 appropriated to the USDA which would be promptly turned over to the federal Postoffice Department to cover penalty mail; (3) the balance into the new higher-cost retirement program for extension agents.

Upshot is that states may need to fork up more than in the recent past for new county agents, home agents, 4-H agents, and state extension people hired in the next fiscal year. Federal share of total extension spending adds up, on the average, to 40 per cent — a percentage that figures to drop in the months ahead.

Congress, of course, may yet move the new budget up or down. But the lawmakers are not expected to change the Administration extension requests to any significant degree.

People here at USDA tell us that about 350 new agents and staff people are being added to the country's total extension force in the fiscal year soon to end. Their rough estimate of the number to be added in the next fiscal year is 300.

Consider Some Farm Bills

Nothing much looked sure and certain on the congressional front as we went to press. No important farm bill had been passed and few appeared to have much of a chance.

These may be the exception; (1) a new corn program, although this was drawing fire from Southern lawmakers miffed about Benson's alleged favor-

Alcoa can help you help farmers

Alcoa® researches farm applications of aluminum continuously. Take buildings . . .

In cooperation with leading agricultural colleges throughout the country, Alcoa has developed nine plans for practical pole-type buildings that can be built at savings up to 75%. More important than first cost are the long-range savings on upkeep and the increased livestock production that result from the animal comfort which aluminum brings.

You can have one complete set of these building plans free by writing for it. In addition, there's a big catalog describing these plans and giving a run-down on the savings and other advantages of building with aluminum.

If you have questions about aluminum on the farm, why not give Alcoa a chance to help you answer them? We'd like to hear from you. Meanwhile, here are some materials you'll be glad to have in your files. Write for them.

THE ALCOA HOUR
TELEVISION'S FINEST LIVE DRAMA
ALTERNATE SUNDAY EVENINGS

ALCOA SALUTES

Your Guide to the Best in Aluminum Value

ALCOA ALUMINUM FARM PRODUCTS

Agricultural Division
Aluminum Company of America
2072-C Alcoa Building, Pittsburgh 19, Pa.

(Please send items checked)

- ☐ One complete set of nine pole-building StePlans.*
- ☐ *Pole Barn Plans Catalog.* Lists Alcoa plans available to farmers.
- ☐ *Pipelines to Profit.* Booklet on portable irrigation.
- ☐ "Right as Rain" 28-minute sound-color film on portable irrigation.†
- ☐ "Barn Raising, U.S.A." 18-minute sound-color film on pole barn construction using aluminum roofing and siding.†
- ☐ Alcoa Farm Gate literature. Facts about aluminum gates.

*Trademark of Aluminum Company of America
†Films may be borrowed for public showing. Specify dates wanted

Name _____

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Post Office and State _____

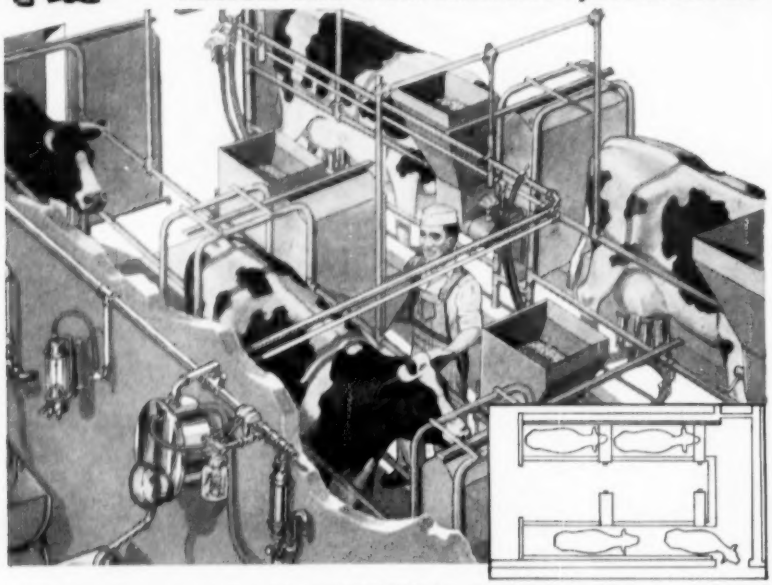
Modernize...for Easier Milking

with

Universal
Supermatic Walk-Thru
SANITARY PIPELINE MILKING SYSTEM

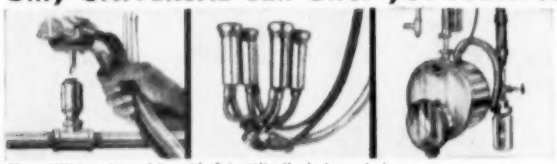
SANITARY PIPELINE MILKING SYSTEM

Fastest and Most Efficient System Made



"Going Supermatic" with UNIVERSAL Walk-Thru is your surest road to easier milking. You get better quality milk, greater production yet "gentler" milking, and best of all you're out of the barn in much less time. You're free from all heavy lifting, carrying, filtering. Easy, convenient handling of the teat cup assembly from cow to cow — without stooping or squatting. Prepare two cows while other two are milking. Minimum space requirement — minimum cleaning, faster cow travel. Universal Supermatic Milking is the answer to increased production — better milk quality and easier, faster milking with reduced labor cost.

Only UNIVERSAL Can Offer you Features Like These —



UNIVERSAL VACUUM-CONTROLLED RELEASER UNIT. Transfers milk from under vacuum into cooling system without contamination from barn odors or human hands.

New Milking Assembly with Scientifically balanced claw, Timed and Synchronized Air Release which prevents aeration rancidity. Patented Supermatic Sanitary Shut Off, and Calf-Nose Inflations.

**Also manufacturers of UNIVERSAL Tandem and Stanchion type Sanitary Milking Systems, UNIVERSAL Suspended and Floor-Type Milkers.*

Universal
MILKING MACHINE DIVISION
NATIONAL COOPERATIVES, INC.

Write TODAY for FREE PLANNING KIT

then ask your Universal dealer for valuable assistance in planning your modern milking system — for more profitable dairy farming.

5121 First Avenue, Albert Lea, Minn. Branches: Syracuse, N. Y., Waukesha, Wis.

BACKED BY 40 YEARS OF MILKER MANUFACTURING "KNOW-HOW"

itism toward the Midwest in making soil bank payments last year; (2) legislation to require federal inspection of all poultry sold across state lines which has broad backing, but features sharp differences as to how the job should be done; (3) a bill to exempt from quota penalties the grower who uses or feeds all wheat produced on his farm; (4) legislation to continue the sale of U.S. farm surpluses to friendly foreign countries for their own currencies; and (5) bills to expand and speed up emergency aid in drought areas.—*End*

★

Shop Record Card Holder

Many teachers require each student to keep up to date a farm shop record of each skill and job completed in the farm shop. Here is a very simple and easy method of having the students be responsible for getting their record card when their job is completed and they desire a grade.

This is out on the wall of the vo-ag farm shop and handy for both students and instructor. By the teacher impressing upon the student his responsibility of getting the record card grade, it will relieve the teacher of considerable time and effort. This will eliminate running to his grade book or to his files for the record card to enter the student's grade.—*C. O. Jacobs, Kansas State College, Manhattan, Kans.*

★

Sawdust a Good Mulch

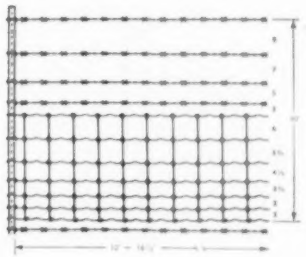
Work at the University of Kentucky compared sawdust mulch with ground corncobs, straw, and no mulch at all.

The use of sawdust produced the highest yields of raspberries, outyielding the others by 8.9 pints.

RED BRAND®

Locked-in quality Locks rust out

Because fence is a capital investment, it should provide years of service without costly replacement or repair. The "dollar-wise" farmer buys the fence that stands tight and erect years longer than ordinary fence. That's the fence that locks rust out...that's RED BRAND! Only RED BRAND is Galvannealed.® Keystone's special heat process fuses and locks zinc on the wire where it stays without peeling or cracking off.



Recommended For Hog Pastures

Easily-handled RED BRAND is built to adapt to all farming needs—for temporary as well as permanent fence. It adjusts to rolling land and splices handily. And those sturdy RED TOP® Steel Posts are quickly and easily put in, can be moved and used again and again.

KEYSTONE STEEL & WIRE COMPANY

PEORIA 7, ILLINOIS

RED BRAND Fence • RED BRAND Barbed Wire • RED TOP Steel Posts • Keyline Poultry Netting • Gates • Bale Ties • Nails • Non-Climbable and Ornamental Fence

RED BRAND

PRACTICAL LAND USE RESEARCH REPORTS

More and healthier pigs at half the farrowing feed cost*

Research shows hog raisers should look into greater use of pasture and cheap roughages to cut farrowing costs. Feed cost can be cut as much as 50 percent. Sows are leaner and can farrow more pigs per litter. Pigs are stronger and healthier.

Many farmers can plan now to seed such grasses as Balbo rye for use in pasturing sows in late summer, fall and winter.

A Kentucky study is applicable to middle and southern states where late fall and winter pasture is possible. One group of sows were on full feed in drylot—the other on limited feed in Rye pasture. Here are results:

	Rye Pasture	Drylot
Number of sows	91	10
Avg. No. of Pigs Farrowed	10.7	8.9
Avg. No. of Pigs Farrowed Alive	9.8	7.7
Avg. Birth Weight Per Pig, lbs.	3.0	2.5
Avg. Gain in Wt. Per Sow, lbs.	79.4	62.5
Total Feed Cost Per Sow	399.2	771.4
Feed Cost per live Pig — *Cost of Pasture Not Included in Feed Cost.*	$13.97	$26.99

†*One sow lost her litter at farrowing time.*

Gilts on limited feed in a University of Wisconsin investigation produced more embryos than gilts on self-feed, as shown by after-slaughter tests. Limited feed, before heat periods and during gestation, can mean an extra pig with less feed cost. Researchers, using 16-30 percent ground corn cobs or poor-quality alfalfa in regular feed, got leaner and more efficient hogs that were ready for market after the seasonal glut. Moreover, hogs on special rations gave a greater percentage of leaner cuts after slaughter.

**Research data from bulletins of the University of Kentucky and the University of Wisconsin.*

Keystone Steel & Wire Company
Department BFM-37
Peoria 7, Illinois

Please send me details on pasture-sow test and suggestions on how to build fences.

Name _____

Town _____ State _____

Farm Home

MANAGEMENT

The two are hard to separate for

Mama Makes Decisions, Too!

By Christine H. Hillman
Department of Home Economics
Ohio State University

● I HAVE SINCERE admiration for ag teachers and other leaders who sponsor and give direction to farm management service. That farmers welcome help in farm planning and financial management has been well demonstrated.

My interest here, however, is to express the hope that this service will point the way for the development of programs in a related area, namely, *home management*. Farm living relates the farm and home so intimately that the two are not easily separated.

Furthermore, families are increasingly expressing their need for information and help with problems relative to that which we have come to call interfirm-household relationships and management. This appears to be especially true of young families.

Wife Has Influence

We read and hear a lot about the farm family's dilemma but not enough, perhaps, about the wife's influence upon decisions made, the effect of her management upon total income and her full partnership in the farming operations, including management of money. She, too, has problems and is desirous of help with them.

Results of research studies have shed considerable light upon the nature of these problems. In a study of 150 young Ohio couples, for example, there was a close correlation between shared decisions about the farm and home business, the degree of management evidenced in the home, and their relationship to sound farm management as well as family success.

Lack Management Ability

In this study, approved by the Ohio Agricultural Experiment Station, 41 percent of the young wives interviewed stated that their lack of preparation for, and knowledge of, homemaking responsibilities had made adjustment difficult in the early years of marriage. Twenty-one percent stated that their lack of knowledge in good home management practices and techniques was a factor affecting the happiness and unity of their home life.

Uppermost in problems appeared to be lack of training relative to time and energy management in the farm home, techniques of work simplification, the purchasing and management of household supplies and equipment, and the management of irregular farm income.

Income Division: A Problem

The majority of families interviewed were aware of possibilities of saving money by performing services at home that otherwise might have to be purchased, such as the home production of food and clothing. Most indicated, however, that they had neither the experience nor the skills necessary to assess total possibilities or to carry out specific techniques.

Uppermost in problems expressed by many families was the proportionment of income between farm and family. Husbands and wives were aware of needs which might be peculiar to both advancement in farming and satisfactory living but did not know how to manage income to the complete satisfaction of all family members or in the best interests of future goals.

Dr. Christine H. Hillman long has been interested in the young farm family. She was prompted to submit this story after reading several past articles in Better Farming Methods on farm management.

She has made several studies and done considerable work on the needs and desires of young rural people. In 1954 she published a study made on the factors influencing their lives.

In this story she emphasizes a point that we all recognize—but sometimes forget: The farm wife has a voice in farm business decisions. Therefore, in her opinion, the complete cooperative assistance of all agencies working in rural communities is necessary for adequate and satisfactory farm and home management service.

They Make Important Decisions

In a study of 270 young families engaged in part-time farming, similar results were obtained. Data indicate that a majority of the couples interviewed had rural backgrounds, that most aspired to full-time farming, and that help with inter-farm-household financial management was greatly desired.

Young couples getting started in farming and homemaking are constantly faced with difficult problems of management. They are, indeed, making some of the most important decisions of their lives. Many of their problems are individual or personal in nature. The concept of "recommended practices" may not be adequate. The answer appears to be found in small study groups and in individual family counseling.

Plan Both Together

The emphasis on farm and home planning by the Extension Service is evidence of the trend. Using known resources and facts of operation relative to the individual farm and home enterprise, Extension attempts to bring all resources together to obtain ends desired by the individual family.

Efforts thus far appear to be well justified and indications are that the program is being enthusiastically received by families.

Coordinate All Planning

If a majority of all farm families who appear to need help are to be assisted, however, it will take coordination and planning by all agencies

BURLAP BULLETIN

News about packaging and agricultural and industrial developments in burlap

The Bag Picture at the Hunterdon G.L.F.

"Filling, stitching and tagging, burlap bags have more 'give' and can be dragged around," says Donald Washburn, Manager of the Hunterdon G.L.F., Flemington, N. J. "We like the bag that doesn't have to be handled gently and stacks without slipping.

Our men can work faster loading and unloading with burlap bags that are easy to grab and can be tossed without bursting.

Besides feed, we sell seed in burlap, too. See what a neat, strong package this bag of seed oats makes. No tearing—no spilling.

This is grist that our dairy farmers have brought in which we have ground and mixed with molasses. We're here to serve the farmer and he likes to get his supplies in the bag that's *tough;* and, thanks to our return bag system, is the most economical."

Says Henry Bundt (left), poultryman of Lebanon, N. J., "I get my feed at the Hunterdon G.L.F. in *burlap bags.* Then I return the empties and get credit for each. Our feed bags are tossed in the truck, dragged around and carted out to the chicken houses. Burlap bags can sure take rough handling."

For operating efficiency burlap bags save time and trouble. For economy, a return bag system is *the key to lower feed costs.* If there is no return bag plan in your area write to The Burlap Council, 155 East 44th Street, New York 17, N. Y.

Published by THE BURLAP COUNCIL of the Indian Jute Mills Association

Phillips 66

Agricultural Ammonia

CROP PROFIT NEWS

"It may be helpful to you for us to clear up a few points about Agricultural Ammonia. These are the 4 most frequent questions asked about this nitrogen fertilizer."

Q. Just what is Agricultural Ammonia?

A. It is a concentrated nitrogen fertilizer, containing 82% actual nitrogen. It is injected, as a gas, 6 to 8 inches into the soil with injection knives—or it can be metered into irrigation water.

Q. Does it cost more than other nitrogen fertilizers?

A. No. The nitrogen-per-pound cost is low because it is the most concentrated form of nitrogen fertilizer. It requires less processing than other nitrogen fertilizers, thus it is less costly to manufacture —and you benefit from this saving.

Q. Is it costly to apply?

A. No. You can, if you wish, apply it yourself, with equipment arranged for by your dealer. Or you may find it profitable to have a custom applicator do it for you. That way, you are freed from this task, and the cost per acre for application is very reasonable.

Q. I can't see it, if it is knifed into the soil. How do I know I'm getting my money's worth?

A. There are metering devices on the application equipment that show the rate of application. Furthermore, you do business with local people whom you know, and, if you wish, they will be glad to give you actual weight tickets.

"For more profit per acre, and lower unit production cost, see your local dealer about Phillips 66 Agricultural Ammonia, the 82% nitrogen fertilizer."

PHILLIPS 66

AGRICULTURAL AMMONIA

PHILLIPS CHEMICAL COMPANY
A Subsidiary of Phillips Petroleum Company
Bartlesville, Oklahoma

working in rural communities; the agricultural agencies, public health, child welfare, the libraries, the schools, the church, and other social organizations dealing with rural family problems at state and county levels. It is to be recognized that all may not feel as active an interest in, or as close a correlation as the agricultural agencies, but each could contribute to individual families and at management group meetings where there is evidence that problems lie within their fields.

Bring in Home Ec Teacher

The home economics teaching staffs in local high schools should be brought in to meetings so they can better correlate their teaching with such programs. It is very possible that some present course content or teaching techniques need changing.

Thus by utilizing leadership in all channels of contact, cooperative planning could put greater emphasis on both farm and home management, with all its related phases of production, marketing, and consumption for rural family betterment.—*End*

★

IDEAS that WORK

Cover FFA Banner

One of the most expensive items of any FFA chapter is the chapter banner. Too often this necessary item is left hanging in the front of the ag room, molested by insects, and covered with dust.

To keep our chapter banner clean and new looking, we have it framed in yellow, then covered with a clear plastic. The plastic covers both sides and is particularly helpful when moving the banner for fairs and other chapter activities.

Wind will tend to expand the plastic, and give it a dome-like appearance, but the plastic always maintains its shape when returned to its usual hanging place.—*Rollie Stukenholtz, vo-ag instructor, Ansley, Nebr.*

Do you have an idea that works? Better Farming Methods will pay a minimum of $5 for accepted ideas or teaching techniques that you have used successfully in YOUR work with FFA, 4-H, or farmers.

'We Have No Erosion. Our Land Is Level'

How often you've heard someone say that! It raises a question of who's kidding whom.

How about run-off? Put enough water on "level" land, and it will run somewhere. And when it runs, look out! Flatlands are not damageproof against moving water. (See picture.)

How about the effects of falling water? If a storm dumps an inch of rain on a piece of land, the water strikes with enough energy to plow the soil 10 times. This splash erosion dislodges (and more or less transports) tons of soil, if unprotected, *even on level land.*

How about soil structure? Beating rains can destroy the desirable granular structure of a soil. They pack the soil—hard and tight.

How about puddling, flood water, or standing water? Too much water can be as bad as not enough, and surplus water usually finds its way down from the higher land—to the "flat" bottoms.

How about wind erosion? It's no respecter of level land either.

How about loss of seed, fertilizer, organic matter? Water can carry it away from level land, too.

No erosion on "level" land? Don't kid yourself! No matter what your topography may be, you must be constantly alert to the needs of soil maintenance.

JOHN DEERE • Moline, Illinois

Quality Farm Equipment Since 1837

FIRST THE AGENTS . . .
Each agent was invited to a district meeting and his county received a complimentary barbecue pit. This was the beginning of the program.

BARBECUES

Here's an idea for a statewide extension program that will interest all groups—both rural and urban

By Paul Yount
Extension Poultryman
Mississippi State College

● IN MISSISSIPPI, WE wanted to put on a state-wide broiler barbecue campaign.

Why? First, with the publicity given barbecuing chicken by several national organizations, and the interest of people in this method of cookery, we thought it would be enthusiastically received and contribute to our extension program of service.

Second, the program was based on putting the county agents in all 82 Mississippi counties in the lead in getting them to carry the idea of outdoor chicken barbecuing to small groups of people.

Teach Barbecue Methods

The campaign was based on teaching people proper methods of barbecuing, arousing their interest in such outdoor cooking, thereby encouraging them to build or buy a barbecue pit for their home use.

The program was actually in three parts. First, of course, we needed a small, portable, barbecue pit.

We used half oil drums with detachable legs and detachable grills. This made them highly portable. Also, these materials can be found on most every farm and thereby the pit could be built easily and economically. Of course, people living in the cities could secure the materials and have them built.

A very economical demonstration pit can be made from a 35 gallon steel drum. This will hold from 14 to 16 chicken halves. A 10-15 gallon grease can makes a popular family pit.

The drum is split in half lengthwise. A pit is made from each half

NEXT, THE LOCAL LEADER . . .
After the agents had received instruction, they went back to their counties and scheduled group meetings and demonstrations in their rural and urban areas.

drum. A piece of one-half inch pipe about six inches long is welded to each corner of the pit. The legs are made of one half inch steel rod about 30 to 36 inches long. These slip into the pieces of pipe, making the pit portable.

Or, you can use one-half inch rod which is cheaper than pipe, and weld it directly to the half drum at whatever length you wish.

In order for our county agents to demonstrate proper chicken barbecuing, the Mississippi Poultry Improvement Association underwrote the building of one portable barbecue pit for the agents in each of our 82 counties.

Demonstrate for Agents

Next, to develop this program we needed a series of demonstrations for our extension workers in the counties.

We scheduled eight district meetings which were combination demonstration and training schools. This gave us two training schools in each of the four extension districts. Another demonstration and training school was requested by extension agents who had to miss the district meetings because they were in school here at State College. We put this one on here at the college at their request, which actually made us nine district demonstration and training schools.

10 Counties Represented

To these training schools we invited county agents, home agents, their associates and assistants. We had extension personnel from about 10 counties in each of the schools.

At these schools we used these portable oil drum pits so that all of the agents could have an opportunity to participate in the work of barbecuing. When the barbecuing was finished of course, they ate the finished product. Then we gave to each county extension group their portable barbecue pit.

The third and final part of the program to get this information and technique back to the people in each county was up to the county agent. The county agent from each county took his complimentary pit back to his county and immediately started holding group barbecues and group demonstrations.

Schedule County Barbecues

In most cases, within a week after the district training school, the county extension agents would schedule a barbecue in their county. In many cases, feed dealers and other poultry industry people in the county, using the extension agents' pit as a model, would have a number

TIPS ON TRACTORS

by DINO the Sinclair dinosaur

Howdy, friend– who's holding the other end of that stump?
Don't know– roots must be in China! This tractor's lost a lot of power the past year.
Hmmm–might be stuck rings or sticky valves. You can free 'em and get more power with SINCLAIR EXTRA DUTY MOTOR OIL. Why not try it now and feel the difference!
ONE WEEK LATER
Say, you were right! That EXTRA DUTY MOTOR OIL sure put the old pep back in this tractor!
It's smart farm management to help your equipment deliver top power to meet peak loads. Refill now with EXTRA DUTY MOTOR OIL!
SINCLAIR
EXTRA
DUTY
MOTOR OIL

Ask your Sinclair Representative about Sinclair Extra Duty Motor Oil – for trucks and tractors.

SINCLAIR

Petroleum Products for every farm need

Sinclair Refining Company, 600 Fifth Avenue, New York 20, N. Y.

Honegger
layers
prove
And Honegger Layers are TOPS in Net Earnings!
Honegger Layers combine high egg production with excellent feed efficiency.
Honegger Layers live to lay, as shown in chart above.
Honegger Layers produce large, chalk-white eggs—and lots of them!
HONEGGER
Layers

This new film strip entitled, "It's Net Earnings that count," is being made available for showing to farm groups, vocational agricultural classes, etc. Write Honeggers' & Co., Inc., Fairbury, Illinois.

HONEGGERS' AND COMPANY
Fairbury, Illinois

This new farm bookkeeping system makes your bank book a record of farm income and cash expense, your check book a record of other farm expenses. It is designed to help the farmer save time and taxes. It accurately records, with little work, the information a farmer must have to make money farming and avoid paying taxes he doesn't owe. The system is priced at $2.95 and more information about it can be obtained from Farmer's Digest, Fort Atkinson, Wis.

---

of these pits made to loan to people in the community or to use for group barbecues.

In some counties the agents called in leaders from each community and home demonstration club and gave them training. Then, of course, they went back into their local communities and supervised barbecues in each community in the county.

Agents Show Them How

In some cases, some of the extension agents put on the demonstration in each community in the county.

Of course, the demonstration was really a combination demonstration, training school, and group barbecue in which the people took part in all phases, from building the fire to eating the chicken. The agents also assisted numerous civic organizations and groups to put on group barbecues in the various towns in their counties.

Here is a typical example of how some of the counties pushed this barbecue campaign in their individual county.

In Panola county, each extension agent had a barbecue pit made for himself and scheduled a barbecue for leaders within a week after they attended the district training school. Then, in the next five weeks, barbecues were held in 21 communities with 411 people participating and resulted in 42 individuals building barbecue pits for their own use.

Praise This Program

This campaign was accepted with favor by the extension personnel in all 82 counties in Mississippi. We have received letters from many agents praising the program and telling us how well it was going over in their county.

We appreciate the fact that the big barbecues, where they feed several thousand people, are good broiler promotion stunts. But the use of the small portable pits in small groups has a tendency to cause most of those attending to want to go home and make a pit just like the ones used in the demonstration. Then they invite in a group of friends for a barbecue.

In other words, this type of program spreads and snowballs very rapidly.

People Like the Program

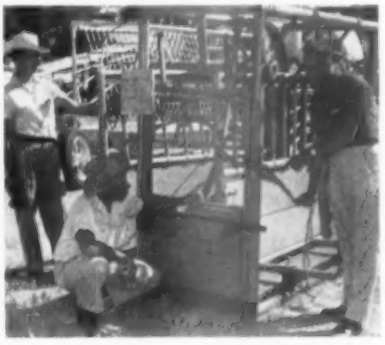
Whether a county agent, vo-ag teacher, or other ag leader, we believe this is a program you will find of interest among your people. It is an excellent opportunity for you to create their interest in you and your program, and serve them at the same time.

A small brochure on barbecued chicken with pictures of the portable barbecue pit is available from Better Farming Methods. Should you desire a copy, send a post card to the magazine, Sandstone Building, Mount Morris, Ill., and a copy of this pamphlet will be sent to you.—*End*

★

Shop Projects at Fair

Discussing features which are necessary for a functionally designed cattle squeeze chute are Kansas vocational agriculture instructors Richard Weiser, Burlingame; Dean Hoppas, Lakin; and Ed Brenner, Bazine.



Scenes such as this were common during the 1956 Kansas State Fair Farm Mechanics Display, Hutchinson, Kans.

Twenty-three chapters entered 115 pieces of farm machinery and equipment for display.

Teachers find the display not only encourages students to undertake farm mechanics projects, but also to attain a higher degree of precision and skill as well.

This is what we are telling your dairymen about

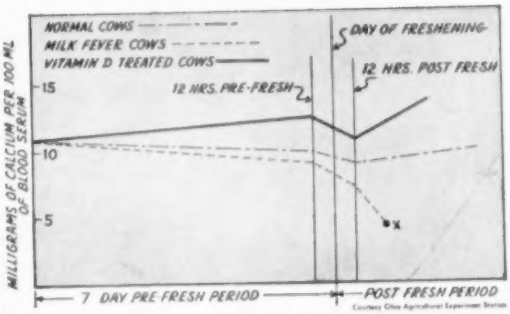
HEAVY VITAMIN D feeding for MILK FEVER PREVENTION

Do you have the problem of

MILK FEVER?

Here's GOOD NEWS!

AN INEXPENSIVE WAY of feeding for PREVENTION



This graph portrays changes in the blood serum calcium of normal, milk fever, and vitamin D-treated cows before and after calving. The heavy line represents cows fed 30 million units of vitamin D per day for 5 to 7 days before freshening. Note high level of blood serum calcium which protects against milk fever. The lower broken line represents low calcium levels found in milk fever cows. At point X milk fever cows lose consciousness.

Has milk fever proved to be a problem among certain cows in your herd? Then this advertisement by Standard Brands will be welcome news for you.

For many years scientists have been experimenting with heavy doses of Fleischmann's Irradiated Dry Yeast to prevent milk fever. These scientists were seeking to learn at what level and for what period of time heavy vitamin D intake would prove most effective and cost the least.

After fifteen years of experiments at the Ohio Agricultural Experiment Station, recommendations can now be made as to the proper level of vitamin D to feed for milk fever prevention. We can also tell you that feeding at this recommended level, each day, for 5 to 7 days before freshening, is comparatively inexpensive.

Remember, the feeding of heavy doses of FIDY is not for the treatment of milk fever — it is used as a *preventive* of milk fever. See your feed dealer or veterinarian.

If you have experienced milk fever losses and your feed dealer or veterinarian is not yet prepared to take care of your needs — write us. They and we can now help you, thanks to advances in dairy science. Address Desk CA-57, STANDARD BRANDS INCORPORATED, *Agricultural Department*, 625 Madison Avenue, New York 22, N. Y.

Fleischmann's F·I·D·Y IRRADIATED DRY YEAST RICH IN VITAMIN D FOR FOUR-FOOTED ANIMALS

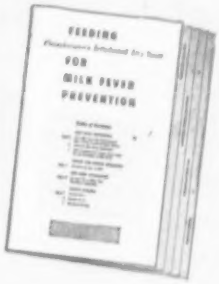
Now, after 15 years of research at the Ohio Agricultural Experiment Station, Standard Brands can tell this story! The advertisement shown here will appear in the leading dairy journals to acquaint your dairymen with how to feed for milk fever prevention.

Experiments at the Ohio Agricultural Experiment Station have led to an economical way of feeding heavy doses of FIDY for prevention of milk fever.

This is good news for dairymen—and good news for you—for it means that you can now tell your dairymen how to protect their valuable cows at freshening time. You can now safely recommend that special formula mixes or FIDY itself be fed as an aid in the prevention of milk fever.

Free Portfolio Tells All

Send now for portfolio giving complete information. This Milk Fever Portfolio was designed for the feed manufacturer, but will serve as a source of valuable and authentic data for the County Agent and the Vo-Ag Teacher. Request your portfolio today. Be ready to advise the dairymen in your community. Address STANDARD BRANDS INCORPORATED, Desk BF-37, *Agricultural Department*, 625 Madison Avenue, New York, 22, N. Y.



Fleischmann's F·I·D·Y IRRADIATED DRY YEAST RICH IN VITAMIN D FOR FOUR-FOOTED ANIMALS

What's new in . . .

Dairy Husbandry

By Jesse B. Williams
University of Minnesota

● DAIRY COWS CAN PRODUCE equally well on green-feeding and on silage feeding systems during the summer, according to 1956 studies at the University of Minnesota.

Green-feeding—also called "soilage"—means leaving the cows in the feed lot and hauling fresh, chopped material to them daily.

In the Minnesota tests, one group was fed on a soilage system, the other on silage. Total milk production was practically identical for the two groups. Total dry matter loss, though, was almost 25 percent for silage feeding, compared to 10.9 percent for soilage, according to J. D Radford, dairy cattle researcher at Minnesota.

Enzymes of Little Help

At least two enzymes are no help for dairy calves, according to research conducted at Iowa State College. They compared calves fed animal diastase and pepsin with calves that received no enzyme. At the end of a 16-week feeding period, there was no important difference between the two groups in body weight.

Corn Silage Better Than Rye

Corn silage appears to be superior to rye silage for dairy heifers. The University of Illinois reports that dairy heifers fed excellent quality corn silage averaged 1.7 pounds gain per day for a 112-day feeding period. Heifers fed rye silage, made when the rye was in the early dough stage, averaged only 1.02 pounds daily gain. Heifers that received rye silage made when rye was in prebloom averaged 1.21 pounds gain per day.

Don't Grind Hay

Grinding hay in a feed mill doesn't pay for dairy cows. In fact, fine grinding actually lowers the digestibility of hay for cattle, according to studies by the University of Wisconsin.

The Wisconsin researchers compared digestibility of long hay and of finely ground hay on eight cows, and analyzed the feed and the feces. Digestibility of dry matter, crude fiber, cellulose, and total carbohydrates was much higher for the long hay than for the finely ground forage. One possible reason for the low digestibility of ground hay is that it moves through the cow before rumen bacteria can act upon it.

Dry cows seemed to prefer non-treated grass silage to silage treated with Kylage—a preservative—in studies conducted at Iowa State College. But when silages, concentrates and fresh straw were available, the cows showed no preference for either type of silage.

Cows Hold Some Milk

According to early research by W. E. Petersen at the University of Minnesota, the amount of milk a dairy cow "holds" after milking may give an indication of how long she will produce during the lactation period. In general, the less milk a cow holds, the longer she's apt to milk before drying up.

Early indications are this milk—called "complementary"—held by a cow depends on her inheritance. In tests with 62 cows, complementary milk ranged from .1 to 13.3 pounds, for an average of 11.3 percent of each cow's total milk.

Feed Ground Cobs

Michigan State University studies indicate that ground corn cobs—if properly supplemented—can be a satisfactory roughage for milking cows. Researchers at Michigan compared cows fed all alfalfa-brome hay for roughage with cows on two different levels of corn cobs, with some hay. In each case, the cows received enough supplement to supply minimum total digestible nutrient standards, and all groups produced almost the same average amount of milk.

Frozen Semen Is Okay

In a field trial with frozen semen for artificially breeding dairy cattle, Minnesota dairy research workers found that frozen semen can yield a conception percentage comparable to fresh, unfrozen semen.

For unfrozen semen, there were 72.8 percent 30-60 day non-returns. With frozen semen, there were 75 percent non-returns after 30-60 days. At 60-90 days, non-returns with unfrozen semen were 69.2 percent, compared to 70.2 percent for frozen.

Feeding, Management Important

The effects of feeding and management are often overlooked in evaluating milk and butterfat production records. In a study of one herd's records for 19 years, Dean Plowman, dairy cattle researcher at the University of Minnesota, found that only half of the year-to-year variation in the average butterfat production was due to changes in heredity. In one extreme case, the average of this herd jumped 62 pounds of butterfat from one year to the next. Yet, careful analysis of the records showed that only 10 pounds of this increase could be explained by culling low producers and adding replacements.

A recent 5-year study of the dairy herd at Minnesota's Rosemount Agricultural Experiment Station shows that cows which freshen during fall and winter produce 30 to 40 pounds more butterfat per lactation than cows that freshen in spring and summer.

Stilbestrol of Little Help

Scientists at the U. S. Department of Agriculture and other experiment stations report that stilbestrol—a synthetic hormone-like substance—has no effect on milk production or on fat percentage in milk. There appeared to be some increased digestibility of the ration, but this change wasn't enough to affect milk production or body gains.

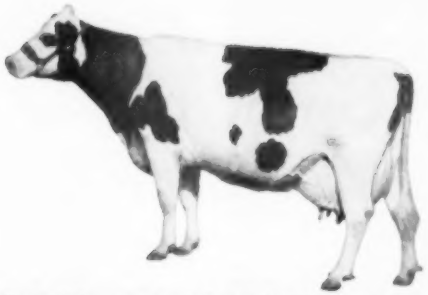
Penicillin Reduces Bloat

Penicillin may help reduce bloat danger in dairy animals. Scientists at Iowa State College found in one experiment that incidents of bloat were somewhat reduced in animals treated with penicillin, compared to untreated animals, but response varied greatly among animals.

Study Rancid Milk

Rancid flavor in raw milk where pipeline milkers are used can be kept to a minimum if the pipeline milkers are properly installed and properly used. Research at Minnesota shows that excessive foaming results in increased rancidity. To prevent foaming, farmers should follow six important steps:

1. Allow air to be admitted at the claw *only*.
2. Milk the cows as rapidly as possible.
3. Get rid of cracked or slitted milk tubes and inflations.
4. Keep all connections tight.
5. Don't let air into the milk line by opening petcocks.
6. Avoid risers in the pipeline whenever possible.—*End*



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writes: R. B. McLAUGHLIN, owner of Haven Hill Crescent Gewina Count.

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Probably the best testimonial I can give for the De Laval is that the udder of this great cow has retained the same shape, and is as soft and pliable as when she was a two year old. Moreover the entire mammary system was officially classified "Excellent" last February. During her life she has probably been milked by from 25 to 30 men, who with all their individual traits, made no apparent difference since the actual work was done by the De Laval unit."

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What's new in . . .

Swine Husbandry

By Arthur L. Anderson
Iowa State College

● IT IS NOW THOUGHT that good prices for market hogs will prevail throughout 1957. In 1956 the spring pig crop was down 8 percent and the fall farrowed pigs down by 4 percent from the preceding year. This reduced the pork supply and better prices for live hogs resulted.

At present, it looks like this spring our pig crop will be no larger than a year ago and the total hog slaughter for 1957 will be 5 percent less than the preceding year. Compared with a year ago, it is expected that each person will have about three pounds less pork to consume this year. The commercial hog producer can be expected to do pretty well.

Meat Hogs Popular

The certified meat hog program of the pure-bred swine registry associations, which is based upon production, registry, rate of gain, and carcass quality, has met with widespread acceptance. The identification of the meaty hogs by means of the live animal probe is being accepted more widely. The fat back depth measurements on breeding stock being offered for sale is now available in many instances. Boar testing, by testing associations, has become more popular and is being expanded.

A new method for measuring an animal's fat is being tried out by the U.S. Department of Agriculture. It is based upon the fact that there is a high correlation between the sleeping time from injecting a sleep-inducing drug and the fat content of an animal.

Crossbreds Mature Early

Some breeds require less time than others for the gilts to reach sexual maturity; also, crossbreds apparently arrive at that maturity before straight breds. This is an important matter in production plans if gilts are to produce their first litter at one year of age.

Breeding at about 8 months of age would be required in this plan and it has been found that gilts are less prolific when bred their first heat period as compared with breeding at their third or fourth period. Some gilts may not reach puberty at 8 months of age. Generally the fastest growing gilts reach sexual maturity at the youngest age.

Litter Size Increases

Improved litter size is the main reason why hog production has been increased in efficiency 30 percent in 30 years. Of course better feeding and improved equipment are also factors. During this past year it has been demonstrated experimentally that litter size can be influenced by trace mineral additives. Also, a low level of protein in the pregnancy ration may be accompanied by low survival rate in the pigs.

Hormones, too, have come in for investigation with breeding gilts. Apparently gilts can tolerate stilbestrol feeding in moderate amounts. However, methyl testosterone feeding appears to cause irregularity of the estrus cycle and a lower insemination rate.

Feed Limited Rations

Limited feeding of the sow herd, including the breeding gilts, gives promise of one way of reducing the breeding stock cost of hog raising. A limited fed ration, if adequate nutritionally and sufficient in quantity, will reduce the feed cost over usual self-feeding. Further, limited fed gilts mature sexually earlier in life, are less awkward in the farrowing pen and sell higher on the market when discarded, than heavily fed sows.

Limited feeding of gilts masks the potential development of the individual which may be objectionable when fat back thickness is taken as one of the measures upon which to base selection.

Use Grass Silage

Alfalfa meal, ground corn cobs, corn and grass silage, and similar materials have been used for diluting the feed mixture for self feeding breeding gilts and sows. Roughage or pasture can in many instances replace economically some of the concentrates, both grain and supplement, of the usual ration.

Heavy feeding (flushing) apparently stimulates ovulation, and an

PURINA VISITS ANOTHER FARMER OF TOMORROW

With seven years of profitable youth work under his belt, David Winkelmann of Ashland, Illinois, has his sights set on a college education and a purebred hog enterprise.

"Farming is the life for me,"

says successful farm boy

David Winkelmann always knew he wanted to be a farmer. Now, with seven years of profitable youth work under his belt, he's more certain than ever that farming is the life for him.

In 1950, when David began his youth work, he bought one purebred Duroc gilt. That project has grown to the point where he now breeds nine sows a year on the 800-acre farm his family operates near Ashland, Illinois.

David turned one bred gilt into a profitable enterprise. This project, plus his other youth activities, was recognized last June when he received one of the few coveted State Farmer Degrees awarded in Illinois.

A Purina feeder during his seven years of youth work, David plans to use the profits from his swine project to put him through the College of Agriculture at the University of Illinois.

Congratulations, David Winkelmann.

• • •

You will find that Purina Dealers everywhere are ready to help you solve your livestock and poultry feeding and management problems. Whether you are feeding for the show ring or for market, remember, Purina will help you produce more meat, more milk, and more eggs—at low cost.

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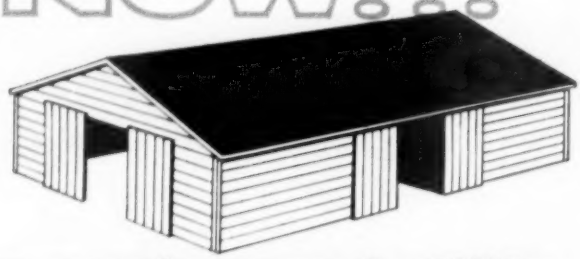

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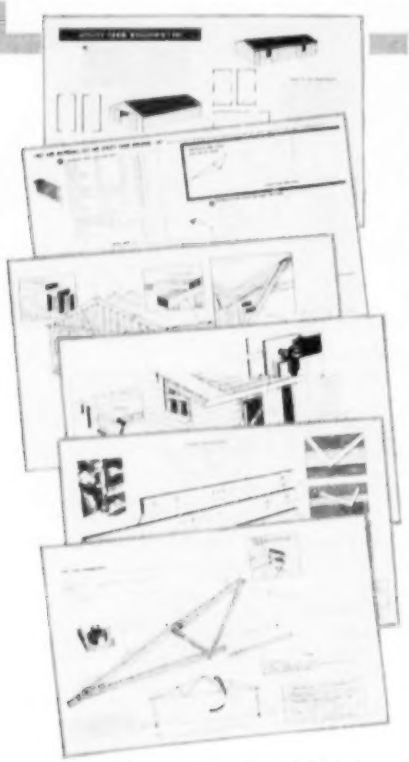
EASY-TO-FOLLOW PLANS COVER EVERY STEP OF ESTIMATING, MATERIAL ORDERING, CONSTRUCTION



Page 1—FOUNDATION CHART
Using this page, the farmer plans all details of the building. The foundation sketch becomes the basis for estimating costs and materials.

Page 2—COST ESTIMATION
Detailed forms cover every phase of construction. The local retail lumber dealer figures the quantities and prices of lumber and materials.

Page 3—FRAMING DETAILS
Diagrams show the placement of trusses, door framing and other details of good construction.

Page 4—FINISH DETAILS
Detailed drawings show how to apply roofing, how to place siding, how to hang doors and finish corners.

Page 5—TRUSS MEMBERS
Detailed instructions show how to construct the simple truss.

Page 6—TRUSS ASSEMBLY
This page describes the installation of ring connectors, lists loads, stresses and lumber grades and shows how the truss is put in place.

The retail lumber dealer in your area will be glad to discuss any details of this building with you. Depending on the farmer's requirements, he will handle all details from planning to actual construction, or will furnish all materials, with or without pre-assembled trusses.

For further information on this versatile, utility building see your lumber dealer or write to:

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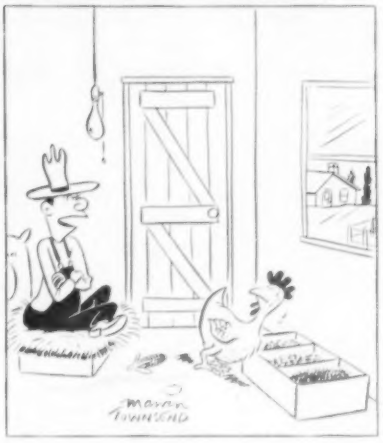

"Well, hurry it up! I haven't eaten yet either, y'know."

ample protein level for suckling sows is imperative for raising large litters. Twenty-five to thirty percent of ground cobs or the same quantity of alfalfa hay or meal, or a combination like 20 percent of cobs and 10 percent good quality alfalfa meal, has been found quite satisfactory for this purpose.

Attempts to use high levels of common salt or bone meal have been not too satisfactory for this purpose.

Wean Pigs Early

Early weaning of pigs has come in for considerable study this past year. Seemingly there are unidentified nutritional factors involved in suckling pigs' nutrition, which influence the success of the early weaning program. Pelleted starter feeds with at least 15 percent of sugar are the most palatable.

Enzyme feeding to very young pigs has met with varying results. Pepsin supplementation appears to be effective when looseness or scouring of the pigs occurs.

Early weaning may lower the ovulation rate of the sows. In a Wisconsin experiment it was found that the average number of eggs or ova shed appeared to increase with the length of the suckling period. Early weaned sows ovulated less profusely than late weaned sows.

Approve Arsenic Acids

The U.S. Food and Drug Administration has approved the use of arsenic acids for swine in concentrates or supplements fed on a free-choice basis with grain with certain limitations.

The organic arsenic compounds are effective in some situations with swine as they are antibacterial and perhaps

growth promoting. Their use is being extended. In most instances the arsenic acids and surfactants have been less effective than the antibiotics.

It has been reported that sulfaquinoxaline, which has wide use in poultry rations as a coccidiosis preventative, has given favorable results in swine feeding. It is quite evident that the effectiveness of any antibacterial agent is dependent upon the need and the circumstances. Since many of these ration additives owe their effectiveness to their control of bacteria in the digestive tract, it is evident that their action is more pronounced when there are infections.

Study New Antibiotics

With pigs that are runty, unthrifty, or diseased, the continuous high level of antibiotic feed may give enough improvement in efficiency to justify the increased cost. The feeding level of 50 grams per ton of supplement is still generally recommended.

There is some evidence that a new antibiotic, hygromycin, is effective against intestinal parasites. Even under conditions that appear good in sanitation and nutrition, low-level infections may be present, especially under closely confined conditions. When gains are slow and the pigs are uneven in size it may be the deficiency of the ration in nutrients.

Compare Building Materials

Hog housing material has come in for investigation this past year. In a comparison of three types of material —aluminum, steel and wood—it was found that pigs gained a little faster on less feed during the summer in the aluminum structure, which had lower daytime temperatures. Differences were slight.—*End*

—IDEAS that WORK—

Rafter Cutting

In teaching rafter cutting to beginners, I find this is a good money saver. I get a sheet of heavy wrapping paper a little longer than the rafter I want cut, fold it, and cut it the standard width of a 2 by 4 or 2 by 6. I use the office paper cutter.

After all the boys have made their rafter, I check them on the floor of the shop where I have drawn the correct position of the plate and the ridge pole.—*Merle G. Roberts*

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GASOLINE—IRRIGATION

Model	Cyl.	Bore	Stroke	Bare Engine H.P.
Y-112	4	3 1/16	3 1/2	33.0 @ 2800 RPM
F162	4	3 7/16	4 1/2	58.0 @ 2800 RPM
F226	6	3 5/16	4 1/2	77.0 @ 2800 RPM
F244	6	3 7/16	4 1/2	85.5 @ 2800 RPM
M330	6	4	4 1/2	122.5 @ 2800 RPM
M363	6	4	4 11/16	129.0 @ 2800 RPM
B427	6	4 5/16	4 1/2	150.0 @ 2800 RPM
H260	4	3 1/8	5 1/2	64.0 @ 2200 RPM
H277	4	4	5 1/2	68.4 @ 2200 RPM
J382	4	4 1/2	6	81.0 @ 1600 RPM
T427	6	4 5/16	4 1/2	151.0 @ 2800 RPM
U501	6	4 1/2	5 1/16	163.0 @ 2600 RPM
R602	6	4 1/8	5 1/2	195.0 @ 2600 RPM
S820	6	5 1/16	5 1/2	260.0 @ 2600 RPM

LPG—IRRIGATION

Model	Cyl.	Bore	Stroke	Bare Engine H.P.
F162	4	3 7/16	4 1/2	58.4 @ 2800 RPM
F226	6	3 5/16	4 1/2	82.0 @ 2800 RPM
F244	6	3 7/16	4 1/2	88.5 @ 2800 RPM
M330	6	4	4 1/2	123.0 @ 2800 RPM
M363	6	4	4 11/16	128.5 @ 2800 RPM
B427	6	4 5/16	4 1/2	150.0 @ 2800 RPM
H260	4	3 1/8	5 1/2	63.0 @ 1800 RPM
H277	4	4	5 1/2	72.5 @ 2200 RPM
J382	4	4 1/2	6	84.0 @ 1600 RPM
K363	6	4	4 11/16	132.0 @ 2600 RPM
T427	6	4 5/16	4 1/2	148.0 @ 2400 RPM
U501	6	4 1/2	5 1/16	176.0 @ 2600 RPM
R602	6	4 1/8	5 1/2	210.0 @ 2400 RPM
S820	6	5 1/16	5 1/2	280.0 @ 2600 RPM

DIESEL—IRRIGATION

Model	Cyl.	Bore	Stroke	Bare Engine H.P.
ZD129	4	3 1/16	3 1/2	36.0 @ 2400 RPM
GD157	4	3 5/16	4 1/2	40.5 @ 2400 RPM
ED201	4	3 5/16	4 1/2	47.5 @ 2400 RPM
HD260	4	3 1/8	5 1/2	60.5 @ 2200 RPM
HD277	4	4	5 1/2	64.0 @ 2200 RPM
JD382	4	4 1/2	6	73.0 @ 1600 RPM
TD427	6	4 5/16	5 1/2	110.0 @ 2400 RPM
RD572	6	4 1/4	5 1/2	163.0 @ 2400 RPM
SD802	6	5 5/16	5 1/2	212.0 @ 2200 RPM

Numerals in model designations denote piston displacement in cubic inches.

Time was when the farmer had no choice but to gamble good seed and hours of hard work on the whims of the weather, over which he had no control. He sowed his crops and hoped for the best, and all too often, he lost. Today, that kind of gambling is as needless as it is dangerous. In fact, irrigation has developed to the point where flooding or sprinkling is more than mere insurance against drought; it's the surest route to higher quality crops and larger yields. No matter what you raise, your need for controlled watering increases year by year, as more and more of the neighbors whose crops compete with yours adopt irrigation as a matter of routine. Have your Continental dealer survey your irrigation needs. Then eliminate the gamble, once and for all, with dependable Continental power. There's a Red Seal model for every irrigation job—each backed by parts and service as near as the nearest phone.

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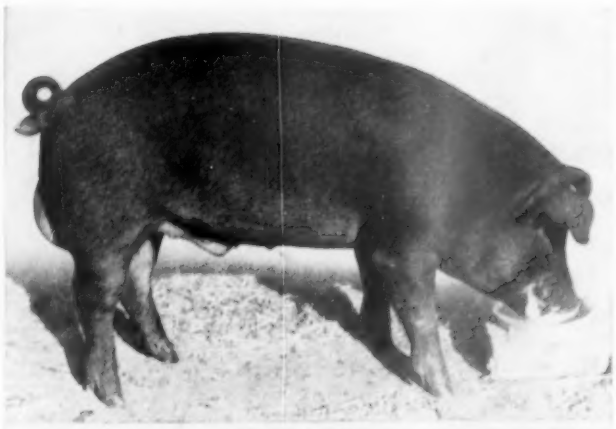
Duroc Judging Pictorial

(Junior Spring Boars)



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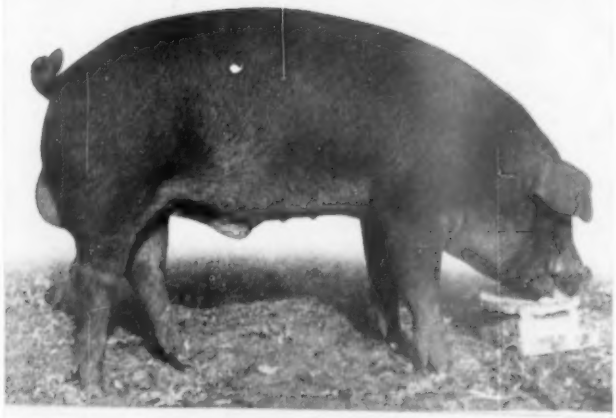

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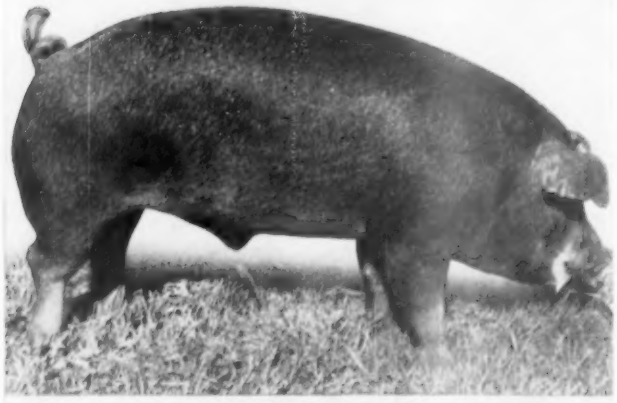

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← 4 →

(See page 61 for correct placing.)

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What's new in . . .

Poultry Husbandry

By A. W. Brant
United States Department of Agriculture

● IMPROVING FERTILITY and hatchability in turkeys has been a long standing challenge to research workers and turkey breeders. One interesting method recently reported is to "preheat" the toms (in cold climates) prior to the breeding season and "cool" them when the weather turns warm later in the season.

For toms scheduled to go into outdoor mating pens it was found that 4 to 5 weeks in a 50 degrees F. "heated" room increased fertility later as much as 10 percent in some cases. The severity of the weather makes a difference as might be expected with the least benefit during mild winters.

In the spring and summer (May, June, and July) confining the males to "cooled" (65 degrees F.) rooms from 9 a.m. to 4 p.m. prevented the usual drop off in fertility. Combining "preheating" before the breeding season with "cooling" started in May gave better results than either used singly.

Restricted vs. Full Feeding

Opinion continues to be sharply divided on this question. Claims are made by people whose opinions are widely respected that feed costs of growing pullets are reduced, egg size is better at the start of production, and there is greater livability in the laying house. All of these or any one of them is music to the poultryman's ear and can mean the difference between a profit or a loss. No wonder the topic remains top-drawer.

Strangely, however, other people who are equally respected have concluded that these effects are either not present or are of such small size that little benefit will accrue to the producer.

It seems a little early to take sides in this controversy. Far too many possibilities have not been covered in the work published so far. One thing seems sure: There is enough at stake to keep the work going until a satisfactory answer is found.

Wood Chip Litter

Poultry house litter needs to be absorbent, not too dusty, readily available, and reasonably priced. In addition it should give up moisture easily. There is plenty of moisture in a poultry house and it has to be removed. When a warm dry winter day comes along the litter should give up moisture readily so that it will be ready for the next siege of bad weather.

Many litters tend to cake on the surface and thus cannot dry out when the opportunity comes.

A recent report shows wood chips to meet most of these requirements. The chips can be made from by-products of the lumber industry or from trees and branches from the farm wood lot. The chips are made by the chipping machines commonly used to chop up tree trimmings.

The chip size giving the best results was about two inches in circumference. These chips permitted the manure to dry and sift to the bottom yet left sufficient space between chips for aeration.

Antibiotics for Fresh Poultry

How long is it now that we've had refrigerators? Quite a while it seems to me. So isn't it about time the old "frige" got a helping hand?

Some of the antibiotics seem to be doing just that. By using antibiotics in the chill water it has been possible to keep poultry meat fresher longer than had even been dreamed of a few years ago. The amounts of antibiotic required are as amazingly small as in all their other uses too.

For example, only 10 parts per million in the chill water has been known to keep cut up poultry fresh for 14 days at ordinary refrigerator temperatures.

Of course this use of antibiotics has had to undergo the most critical of examinations by USDA and Food and Drug to make certain that it would do the job and also be perfectly harmless to the consumer. At least two preparations have been approved so far.

Hatching Eggs From Cages

A new method of artificial insemination has been proposed to make it easier for breeders or hatchery supply flock owners to keep their

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NICARB and *only* NICARB can cut your mortality from both cecal and intestinal coccidiosis to ZERO. Your costs go down—profits up—with NICARB in your starting mashes and grower feeds for sure coxy protection.

Thus, you can wind up at housing time with more of the chicks you started. Furthermore, these pullets will be better quality producers and you'll have saved on such items as growing facilities, feed, medication, and labor.

If birds are adequately exposed to all dangerous species of coccidia, a solid immunity develops by housing time. Commercial use with many millions of birds proves that NICARB may be fed until just before pullets start laying, without adverse effect on subsequent egg production, hatchability, or fertility.

One additional point needs emphasis. NICARB should not be fed to laying birds.

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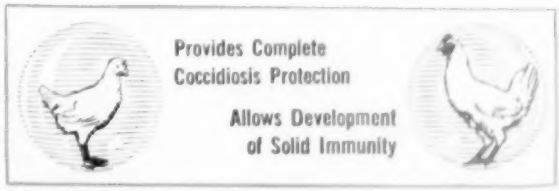

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birds in cages. By older methods it was necessary to remove the hen from her cage prior to the insemination. This was not only time consuming but was pretty rough treatment for the layers.

In the new method the hen is caught by the legs as she faces the rear of the cage. Her feet are pulled out of the cage door and over the feed trough which puts the hen's body in a nearly vertical position. The vent is easily reached by the operator and can be everted for insemination with no difficulty.

When the process is over the hen is simply released, there being no need to place her back in the cage.

Experimental results have shown an average increase of about 20 birds per man hour over the older method. Higher fertility was obtained from low fertility birds and there were no effects on egg production.

Chicken Corneas Are Transplanted to Humans

On two occasions our Agricultural Attaché in Tokyo, Dewey Termohlen, has furnished us with newspaper clippings concerning the use of chicken corneas for human eyes. The second of these read as follows:

"JAPAN TIMES, August 13, 1956

Calcutta, Aug. 12 (AP)—Doctors claim the grafting of a chicken cornea yesterday restores sight to a man blind for six years.

The patient was Manick Gomez, 55, of Dacca. After failing to obtain a human cornea, doctors said, they decided to attempt the operation with a chicken cornea.

When the bandages were removed yesterday Gomez was able to see, the doctors claim."

This additional use of a poultry product is not likely to solve any economic problems of the industry, but you can bet there is a certain Mr. Gomez of Dacca who thinks the chicken is a mighty fine bird.—*End*

★

Homemade Vise Stand

This sturdy, easily assembled vise stand is made from a discarded hot water tank which has been filled with concrete. Two steel boiler plates have been welded to each end of the filled tank.

To the top one, the blacksmith's vise has been cut down to where it can be welded between the two boiler plates.

The top of this is quite strong and suitable to be used for welding, heavy hammering, etc. This can be moved, yet it is very stable and can be used without fear of upsetting.—*C. O. Jacobs, Kansas State College, Manhattan, Kans.*

other authorities* agree with you

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DR. SALSBURY'S LABORATORIES
Charles City, Iowa

Dynafac . . .

a new chemical additive for feeds

● DYNAFAC, A NEW FEED additive, is one you will be hearing more about in agricultural circles.

Dynafac is a chemical compound which was developed and is being manufactured and promoted by Armour and Company. It is made from a by-product of agriculture—fat. The action of it is not definitely understood. In the intestinal tract it creates a favorable condition by checking and restricting the multiplication of undesirable bacteria.

Work was begun on Dynafac about the time surfactants (detergents) were first talked about as having value in feeds.

According to Armour and Company, the finished material, as used in feeds, consists of 20 percent active ingredient, and 80 percent inactive carrier. The carrier is steamed bone meal, an excellent source of minerals, particularly calcium. Dynafac actually can provide part of the required amount of calcium in feed.

Armour research men say that Dynafac is a very stable compound, practically insoluble. Heat and oxidation will not destroy it. There is no absorption of the material into animal tissue.

It is a safe product, produces no toxic effect, and will maintain its potency at room temperature for at least three years. Studies by Armour and Company to date show that it is stable in a variety of feeds for at least two years.

"No loss in potency can be detected in pelleting feed which contains Dynafac," says Dr. Byron Shinn, research director, Armour and Company. "In some experiments, as high as 25 pounds to the ton have been fed with no ill effect." To the farmer, it is more preventive than curative. It can be fed continuously throughout the lifetime of the animal.

Dynafac seems to increase feed efficiency, thereby stimulating growth. It is capable of inhibiting the growth of both Gram positive and Gram negative bacteria, and is helpful in combatting many diseases of animals.

Armour research men point out, too, that Dynafac has anti-fungicidal properties. Being a chemical compound, it acts against fungi, prevents sporulation, and thereby controls the reproduction and spread of the organisms.

As to cost, it is within the comparative range of other feed additives.

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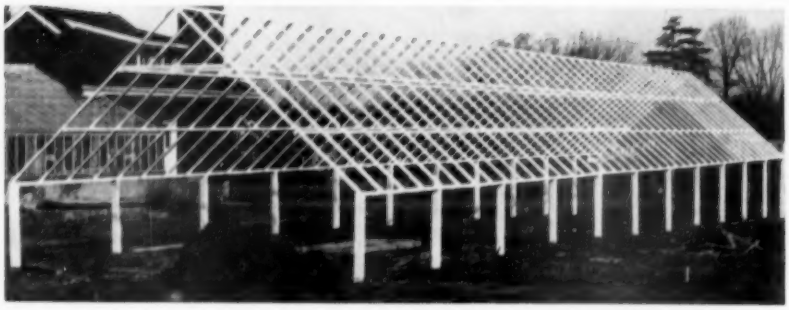


This is a view of the plastic greenhouse framework.

By E. M. Emmert

Department of Horticulture
University of Kentucky

● IN TEACHING the plant side of agriculture to high school students, the vocational agriculture teacher is handicapped by the fact that he is teaching about growing plants in the winter when they normally grow in the summer.

Glass greenhouses are too expensive to be used in most high school projects. Since polyethylene plastic greenhouses cost about one-twentieth as much, they may be a help in this matter. High school budgets could afford this type of greenhouse. Even high school boys, under supervision, could do the labor on these cheap, easy-to-build houses.

Plants Grow Under Plastic

By using a double-layer of plastic, the heat bills can be cut in half. This would also be a big help in making the project fit high school budgets. So far, no plant has been found that does not grow well under plastic if conditions are properly maintained. Even clover and various types of grasses grow well, and experiments can be carried out on them. This has been demonstrated by the University of Kentucky Agronomy Department.

All types of vegetables tried by the University of Kentucky Horticulture Department have responded well. For instance, Bibb lettuce definitely grows better under plastic than under glass. This not only has been found to be true in Kentucky, but it has grown better in Tennessee, Indiana, Ohio, and other states.

Flowers also flourish under plastic. Several growers have found that chrysanthemums grow a little slower but are of better quality under plastic.

Graduate students at the University of Kentucky have shown that red plastic gives better quality to roses, carnations and other flowers than does clear plastic or glass.

Houses Are Portable

Another advantage of plastic greenhouses is that no foundations are required. The plastic is simply run into the ground inside and out. It lasts longer under ground than on top of the ground. For this reason, plastic houses can be moved easily to new locations. They can be moved to cover a test plot that was started at a new location. Possible tests and experiments that could be set up are unlimited both in agronomy and horticulture.

With the development of aluminum laminated to plastic heating tunnels, the cost of heating is very low. Natural or propane gas can be burned in inexpensive heaters that require little attention in small houses. It has been found that if propane is used it is not necessary to vent all burner fumes to the outside. The CO_2 given off even hastens plant growth if not allowed to accumulate in too large amounts.

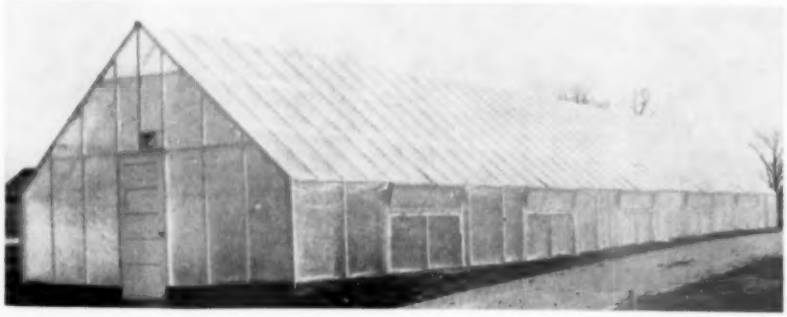
If natural gas is used, the exhausting of fumes is more necessary. The use of small fans to blow heat through the heating tunnels gives good distribution of heat and keeps the heat in the soil and areas where the plants are growing. It prevents heat from rising to the top and escaping out the top of the house. Of course, steam and hot water can be used on larger plastic installations.

Withstands Winter Weather

If put up correctly, the polyethylene plastic will take all types of winter weather. It stands wind that an ordinary dwelling house stands. Rain and snow are shed better than with glass because large sheets are used and there is less chance for leaks. The vinyl plastic stands summer heat better, but vinyl tends to crack open in cold weather. For this reason it is out of the question for use on plastic houses in cold climates.

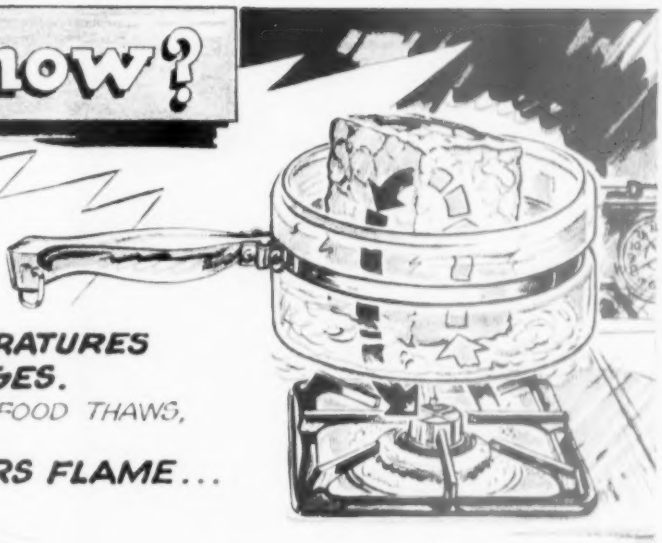
It is interesting to note that hail stones which break glass bounce off plastic without harming it. However, jagged types of hail stones make small holes in the plastic in some cases. The plastic will take enormous snow loads if the framework will stand up.

Note how the plastic meets the ground in this completed polyethylene covered house.



Did you know?

NEW AUTOMATIC BRAIN



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by M. W. Finkenbinder

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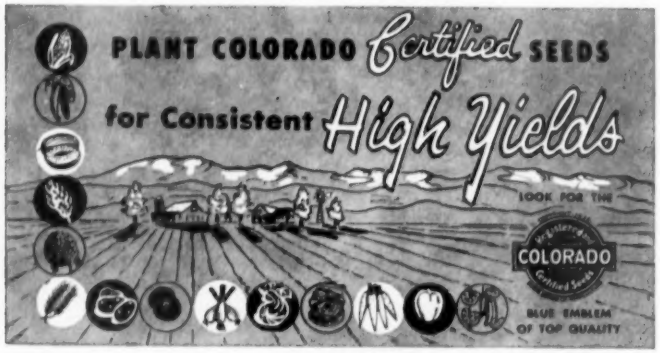

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Temporary supporting posts can be used. If a steep angle is used, most snow slides off well. Freezing types will stick, but the plastic holds up well under frozen sleet and snow.

While the advantages are many, there are several disadvantages. One is that humidity is higher under plastic. For such crops as Bibb lettuce and cucumbers, this is an advantage.

However, on crops like tomatoes and in fact on all crops, diseases are more likely to develop. By using both side and overhead ventilation, heating fans that cause an air change, and by using proper fungicides, this danger can be overcome and good crops produced.

The higher humidity has another advantage in that crops do not have to be watered so often. Ventilation can be installed much more cheaply than in glass houses. For this reason, ample ventilation should be installed.

Replace Plastic Each Fall

Another disadvantage is that the plastic has to be renewed each fall. However, the plastic for a 20′ x 42′ house costs only about $20 for two layers. This is much less than the annual upkeep and overhead on a glass house.

A new plastic is being developed which gives promise of lasting six to eight years and will cost only twice as much as polyethylene. Frameworks built now will be adapted to the new long lasting plastic if it becomes available.

Blueprints for these houses may be obtained from the Agricultural Engineering department, University of Kentucky. Bulletins on plastic houses and on growing vegetables in them may be obtained from the University of Kentucky, Horticulture Department. Many companies have polyethylene plastic for sale.

For the future, these plastic houses open up vast possibilities for both high school and college students to study plant growth in regular school sessions instead of always having to set up special projects to be studied in the summer when the regular school sessions are not being conducted.

At the same time another angle should be considered. While these students are carrying out their projects they are getting acquainted with a new source of revenue for the farm.

In Kentucky, tobacco cuts have seriously cut farm income. Raising vegetables in plastic houses offers a supplementary source of income as well as food for winter home use. While other states may not suffer so much from tobacco cuts, new sources of farm income are always welcome.

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so you can.. ..tell others...

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CSC's Hi-D Ammonium Nitrate is a "2-speed" fertilizer. The guaranteed 33.5% N comes in 2 equal "servings" of nitrate nitrogen and ammonia nitrogen. 100 pounds gives as much nitrogen as 159 pounds of ammonium sulphate, as much nitrogen as over 209 pounds of sodium nitrate!

In the field, Hi-D gives more "mileage" per spreader load. Guaranteed to store well under normal conditions for one full year. That's because this new high density product has less bulk—takes up less room.

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What's new in . . .

Soil Husbandry

By J. B. Peterson
Purdue University

● RECENTLY CONSIDERABLE attention has been paid by research people in Agronomy and by fertilizer machinery manufacturers to the method of placement of ferilizer in the row. It is now believed that placement of the fertilizer in one band below and to the side of the seed is a superior method. Care is taken not to put the fertilizer above the seed where it will cause injury to the plant. Single boot applicators are now on the market which are considered to be much safer than other methods of putting fertilizer in the row. With this type of applicator the lateral distance from the seed to the fertilizer can be carefully regulated.

Water-Soluble Phosphate

The question of the value of water-soluble phosphate has come rapidly to the fore. In the early days of phosphorus fertilizer usage most of the phosphorus was applied as water-soluble monocalcium phosphate in superphosphate. Materials are now being used which will range in degree of water solubility from almost 0 to 100 percent.

Results reported by workers in Iowa show that the effectiveness of phosphorus in fertilizers applied in the hill for corn was directly and closely correlated with percentages of water-soluble phosphorus in the fertilizer.

Workers at the Michigan station studied the effect of phosphorus carriers with different degrees of water solubility on corn grown on peat in greenhouses, and on Fox sandy loam in field experiments. In the greenhouse studies, the yields of corn, in general, varied directly with the degree of water solubility of the phosphorus in the fertilizer. In the field study it was found that higher solubility of phosphorus in the fertilizer resulted in an increase in the amount of water-soluble phosphorus in the plant.

Experiments in Kansas did not show much difference in yield resulting from water-soluble phosphorus compared with other types of phosphorus in fertilizers. However, the yields were generally not high.

In Minnesota workers state that the water solubility of fertilizer is less important in acid soils than in alkaline soils. They do not believe that water solubility is a factor with long season crops, particularly those which are efficient users of phosphorus such as legumes. They believe this is especially true when such crops are grown on acid or neutral soils with a supply of available phosphorus.

They expect responses will be better from water soluble fertilizers in limited situations on acid soils when the soils are low to very low in available phosphorus.

In their work on alkaline soils they found by using tracer phosphorus in field and greenhouse studies greater absorption of phosphorus from water soluble fertilizers than from the other kinds. They claim that even on alkaline soils water solubility is not important unless the content of the water soluble phosphorus falls below approximately 50 percent.

Continue Phosphate Studies

Because very popular and commonly used fertilizers vary in the amounts of water-soluble phosphate, this issue will be kept alive until evidence becomes so conclusive as to make speculation unnecessary. You can look for continued reports on the efficiency of water-soluble phosphate versus other types of phosphate from the main experiment stations in the next year or two. In the meantime most cautious agronomists will probably be recommending that there be at least 10 to 20 pounds of water-soluble phosphate in fertilizer used as a starter in the row.

What of Liquid Fertilizers?

The question of the relative merits of liquid versus solid fertilizers still is asked at almost every farmer meeting. Recent work at Michigan bears out what has been generally the opinion of agronomists, namely, that there is no significant difference between the two types of fertilizer if they are used properly and in similar ways. In recent experiments liquid fertilizers were found to be about equal to solid fertilizers as sources of phosphorus where comparable materials were placed alike in soil.

Nitrogen Influence on Plants

Attention is being paid to the influence of nitrogen on the efficiency of phosphorus uptake by plants. Phosphorus uptake has been found to be much more efficient where an ample supply of nitrogen is present.

The form of nitrogen also seems to be important. For example, ammonia nitrogen seems to be unusually effective in improving the efficiency of phosphorus fertilizer. It is not clearly known why ammonium nitrogen is more effective than nitrate nitrogen in influencing the uptake of phosphorus.

In order for roots to divide rapidly and penetrate the soil thoroughly, both nitrogen and phosphorus must be present.

It is felt that part of the benefit of nitrogen and phosphorus uptake may result from the effect of nitrogen on root proliferation when phosphorus is also present.

Good work is under way at several institutions on this problem. Data which will influence practical application of fertilizers may be expected.

Test Broadcast Fertilizer

Experimental work in Indiana is bearing out earlier observations upon the effectiveness of phosphate when broadcast to the soil. Higher yields are still being obtained where the amount of phosphate needed is applied throughout the total surface soil than where applied in rows only.

Where soils are low in potash it is not possible to apply all the potash needed in the row because of the injurious effect of the chloride ion in the muriate of potash, the most commonly used form, and to the salt effect of this highly soluble salt.

Since recent studies of the results of soil testing in Indiana show that many of the soils of that state are low in potash and since only a few farmers are applying potash broadcast, extension men in this area are speculating that not enough potash is being used in general throughout this section. This could easily be the situation in other parts of the country.

Test Subsoil Too

In soil testing it is becoming increasingly apparent that the subsoil should be considered with the surface soil. Studies are being made on the influence of subsoil phosphorus.

Workers at Michigan, Wisconsin, Nebraska and other places have been using radioactive phosphorus to trace the source of phosphorus used by a plant. They have been comparing the phosphorus available in the 0-6 inch layer with that available in the 6-12 inch layer.

They find in some soils that quite a

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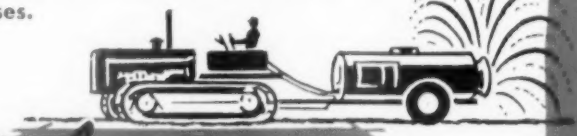

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(Nutritional Iron)

A neutral Iron compound containing 30% Iron as metallic. Chelated Iron 10% as metallic — applied to foliage of plants for correction of Iron deficiencies.

NU-Z

(Nutritional Zinc)

Nu-Z contains 52% metallic zinc . . . Can be applied directly to the plant in spray or dust form . . . Stimulates plant growth and corrects zinc deficiencies.

NU-M

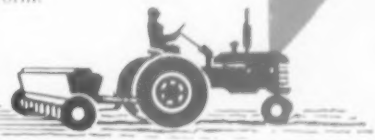
(Nutritional Manganese)

A nutritional manganese compound to be fed to the plants through direct application in spray or dust form . . . To correct manganese deficiencies and to stimulate healthier plant growth.

NU-MANESE

(Manganous Oxide)

An extremely effective nutritional manganese product for correcting manganese deficiencies due to low manganese content of the soil . . . Applied in spray or dust form.



ES-MIN-EL

and CUSTOM MIXED MINERAL MIXTURES

The essential mineral elements . . . Contains Manganese, Copper, Iron, Zinc, Boron and Magnesium, all essential to healthy, productive soil. Fruits and vegetables rich in vitamins cannot grow in soil poor in minerals. For soil application, ES-MIN-EL in spray or dust form for direct application to the plants is also available . . . Contains nutritional Manganese, Zinc and Copper.

WE WILL CUSTOM MIX MINERAL MIXTURES TO YOUR OWN SPECIFICATIONS IN LARGE OR SMALL QUANTITIES.

For Information on These Nutritional Products, Write, Wire or Phone Us.

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Tennessee's Nu-Z, Nu-Iron, Nu-M and Tri-Basic Copper Sulfate are especially suited for use in preparing nutritional and fungicidal spray and dust mixtures.

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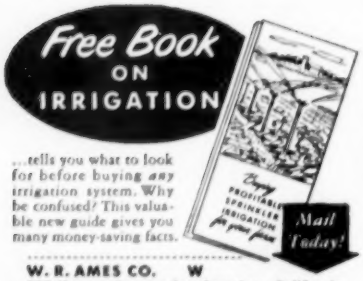
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lot of phosphorus is being taken up by plants from the 6-12 inch layer although not as much as in the 0 to 6 inch layer.

They discovered this by placing a small known sample of radioactive phosphate in the layer to be tested. The phosphorus taken up from the soil by the plant will contain some of the regular soil phosphorus and some of the radioactive phosphorus. Since the kinds of phosphorus usually will be taken up proportionately to the relative amounts present in the soil, the radioactive phosphorus found in the plant is a direct index of the phosphorus coming into the plant from the zone in which the radioactive phosphorus was placed.

This is one example of the many clever ways in which scientists are using radioactive material as a tool for the benefit of man.—*End*

IDEAS that WORK

Mailing Box for Tapes

This idea of using a strong, sturdy box to mail tapes to the radio station has helped us in Moniteau county, Missouri, do a better job of publicity with our 4-H and adult programs.

The box is built from masonite, strips of wood, a strap, nails, and screws. The masonite is nailed to the strips of wood and the strap is held in place around the box with screws.

The use of this box has prevented the damage of tapes to and from the radio station when sent through the mail. Time spent on radio publicity has been made more efficient because none of the tapes have been damaged beyond use on the way to the radio station.

The life of the tape and reel has been increased by five times which is a tremendous saving in itself. The box may be made to fit the size reel you are using.—*John B. Terwilliger, California, Mo.*

Do you have an idea that works? Better Farming Methods will pay a minimum of $5 for accepted ideas or teaching techniques that you have used successfully in YOUR work with FFA, 4-H, or farmers.

These are the officers of the Utah Association of County Agricultural Agents. In the center is Ray A. Thatcher, Morgan, president, flanked by Ernest O. Biggs, Tooele, secretary, (left), and Ray Burtenshaw, Nephi, vice president.

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for Economy
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"Now here's a baler that thinks of the farmer"

"You find that out on your very first turn. You know how it is with most balers? How you have to swing wide ...then jockey around to pick up the windrow? Not this Oliver 60! It's almost like part of the tractor—stays on your windrows no matter how they snake around. Your power moves on a direct line from PTO to flywheel. Same with your hay; it moves *direct*—no waste motion to shake out your leaves. Like most farmers, I'm working more grassland these days. Sure glad I've got the *farmer's* baler—I've found Oliver gives me the power to produce at the lowest possible cost."

YOUR OLIVER DEALER ADDS: "Your Oliver baler saves your raking time, too: no worrying about windrows being just so. When Oliver thinks of the farmer—and that's all the time—Oliver goes the whole way!"

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Buy your new baler
on the
"Pay as you Produce"
purchase plan
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"FINEST IN FARM MACHINERY"

What's new in . . .

Beef Husbandry

By L. S. Pope
Oklahoma A & M College

● MUCH ATTENTION has been given to performance testing as a means of improving beef cattle. Under this program, selection of breeding stock is based on feedlot performance, weaning weight, and grade of calves produced. Those who favor this method give a number of advantages over selection on appearance or show ring standards alone.

The claim is made that the majority of beef cattle in our better herds are satisfactory in shape or conformation (type) and future emphasis should be placed on producing ability rather than appearance. If certain traits such as rate of gain and productivity are passed on to succeeding generations, as experiments have shown, we can expect much progress if we select directly for them in our breeding stock.

The show ring, once important as an educational tool in establishing beef type, must now give way to more accurate measures of an animal's genetic worth. These are but a few of the arguments in favor of the system, but they are by no means unanimously agreed upon by breeders and producers.

Consumer Tastes Change

Have we gone overboard on "type" at the expense of production? Recent carcass studies at Texas A. and M. indicate that when cattle, varying widely in shape or conformation, are fattened to the same degree of finish, the percent yield of high-priced cuts (rib, round, and loin) from their carcasses will be essentially the same. Much future research is needed to show how we may change or altar the beef carcass by breeding, feeding, and management.

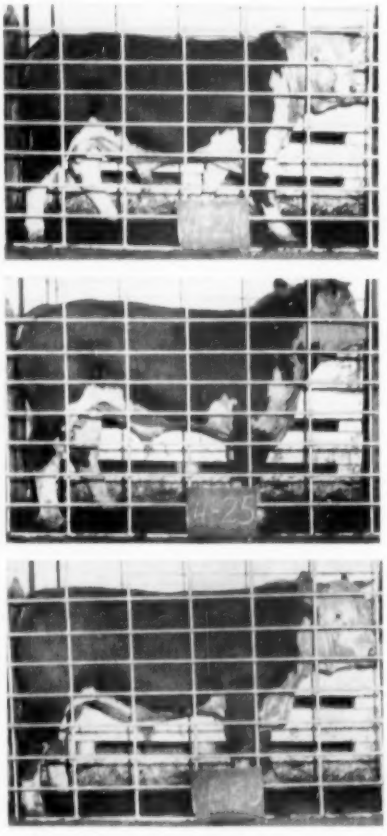
Then, too, recent consumer surveys indicate that the average housewife (1) is not familiar with the U.S. grades of beef upon which our industry is based; (2) prefers lean cuts with a minimum of outside fat; (3) wants smaller cuts than previously preferred; and (4) is most concerned with the tenderness and flavor of the beef she buys.

Several major packers are considering the merchandising of beef in frozen, packaged cuts, or the boning out of heavy carcasses to produce the desired smaller cuts. Certain fabricated products from relatively poor carcasses have had a profitable outlet.

Need Sound Culling

Results from experiments and "on the ranch" demonstrations have shown the importance of a sound culling and selection program. In an Oklahoma test, the top 15 percent of the cows in a 120-head herd were found to have produced 77 lbs. more calf per year than the bottom 15 percent over a 6-year period—or the equivalent of an extra calf at no extra cost!

On the famous Bell Ranch in New Mexico, weaning weights have been increased by 40 lbs. and the percent of calves grading fancy from 9 to 50, in 7 years of rigid culling and selection. This occurred during one of the worst droughts in New Mexico history. In a large commercial herd in Oklahoma, the top one-third of the cows were found to be three times as profitable as the last third.



Which bull would you select? The three bulls are half-brothers, calved within a three-week period, weaned at 7 months, fed the same ration for 154 days, and photographed on the same day at approximately 12 months of age. Bull 4-24 is the right kind, but gained only 2.40 lbs. per day on test. Bull 4-25 gained well, 2.89 lbs., but is leggy and shallow-bodied. Bull 4-50 combined both rate of gain (3.15 lbs.) and type necessary to improve cattle.

Good Cattle Gain Fast

A question often posed is: "Must we sacrifice type in order to obtain fast gaining, efficient cattle? Are the rough, rangy cattle the only ones who can qualify in terms of rate and economy of gain?" Records from many stations indicate that if we carefully maintain our standards as to type, we can select good-doing cattle that will gain rapidly and efficiently. A good illustration can be seen in the accompanying pictures on this page.

Cows Inherit Cancer Eye

Cancer eye may effect 10 percent or more of the mature cows in range beef herds. Recent studies have shown that the susceptibility to this condition is inherited, and that selection against this trait may be helpful. Anaplasmosis, a blood disease common to cattle of the south and southwest, can now be detected by a rather simple blood test, and treated with large doses of antibiotics.

Grubs cost the cattlemen of the U.S. an estimated $100,000,000 annually. A new systemic insecticide (given as a drench) appears to be highly effective against the grub larvae within the animal.

Urea Gives Gains

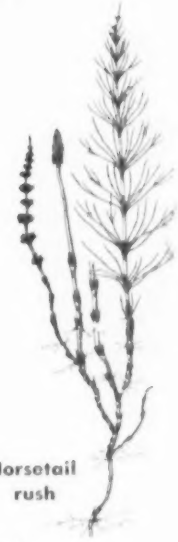
In feeding tests, a new "economy suplement" containing most of its protein equivalent from urea, has been equal to common oil meal in Iowa tests with yearling cattle. Much interest has developed in the use of stilbestrol implants as compared to feeding the hormone-like drug. Lower levels than previously used appear to be effective, and when the dosage is small, few adverse side effects have been noted.

The cost of implanting cattle is considerably less than feeding stilbestrol in the ration and more flexibility may be obtained in the feeding and management program. Recent Michigan tests show that implants containing two female hormones (progesterone and estradiol) may give greater gains than stilbestrol mixed with the protein supplement.—*End*

How to kill all these perennials... roots and all

Canada thistle's deep root system produces numerous new plants. Cultivation alone breaks up (but doesn't kill) roots, actually spreads pest.

Milkweed



Horsetail rush

Cattails and Tules

Quack grass

Poison ivy and oak

with Cyanamid's Amino Triazole Weedkiller

Amino Triazole Weedkiller gets into sap stream of weed plants... upsets normal growth processes... kills weeds, *roots and all.*

Because Amino Triazole moves through entire plant, *into the deepest roots,* it takes about two weeks to see killing effects. *Then,* if desired, mow or cultivate. Amino Triazole, used as recommended, does not sterilize the soil.

One application gives up to 90% kill. Amino Triazole controls these weeds, usually with a single application: Canada thistle, poison ivy and oak, scrub oak, sow thistle, milkweed, phragmites, horsetail rush, tules, cattails. The following require cultivation and may require repeat application: Bermuda grass, nut grass, quack grass.

Two simple steps. 1. Wait for vigorous growth. (4 to 10 inches high for Canada thistle.) 2. Spray Amino Triazole Weedkiller. Directions on package.

Overall or spot treatment. Mix Amino Triazole with water. Use in power sprayer for overall coverage. If *patches* of perennial weeds threaten cropland, spot treatment with hand sprayer will kill weeds *before* they spread. Cyanamid's Amino Triazole is available in 1 lb. and 4 lb. cans – 24 lb. pails.

Supply of folders – write: AMERICAN CYANAMID COMPANY, FARM AND HOME DIVISION, 30 ROCKEFELLER PLAZA, NEW YORK 20, N. Y.

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Metallic Zinc Paint!

• Give your metal roofs added life with Metallic Zinc Paint (MZP). Covers in one coat by brush or spray. Stops rust. Sticks fast, expands and contracts with metal to maintain unbroken coating. Covers 600 to 800 sq. ft. per gallon. In attractive colors. Tests started in 1932 prove MZP is best of 92 roofing paints! Get the full story before you paint!

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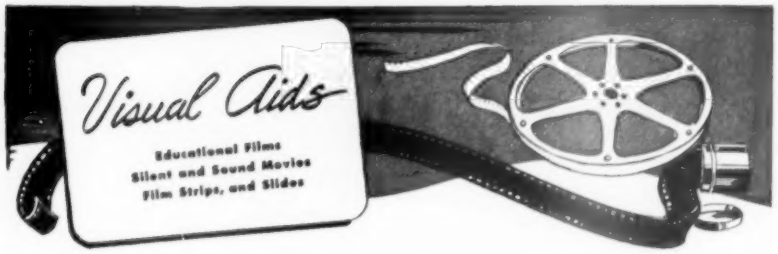

APPLE MILDEW, 16 mm., sound, color, 15 minutes. Produced by and available from Rohm & Haas Co., Agricultural and Sanitary Chemicals Dept., Washington Square, Philadelphia, Pa.

Apple mildew is the theme of this new, educational motion picture. The film depicts the damage caused by powdery mildew and the geographical distribution and climate factors involved. The life cycle of the disease is shown in detail, considerable footage being devoted to photomicrography of infected buds.

The importance of thorough and timely spraying for effective control is shown. Because of the extreme difficulty experienced in the past in the control of powdery mildew, the film should be of particular interest not only to fruit growers but also to pesticide dealers, gardeners, county agents, vocational agricultural teachers, and students.

H. H. Lyon of Cornell's Plant Pathology Department was responsible for most of the photography. Western scenes were supplied by Joseph Yolo, prominent cinematographer of Yakima, Wash. The script was reviewed by other plant pathologists in various apple-growing areas of the country.

A NEW WAY TO GET MORE EGGS, 16 mm., sound, color, 12 minutes, 1957. Available from Pfizer Agricultural Films Library, 630 Flushing Ave., Brooklyn 6, N. Y.

The film depicts recent research developments in poultry nutrition and shows how they can be applied practically to farm and commercial laying flocks.

The picture was filmed at Pfizer's Agricultural Research and Development Center near Terre Haute, Ind., and at nearby cooperating farms and hatcheries.

Dr. C. W. Carlson of the South Dakota Agricultural Experiment Station, a leading authority in poultry nutrition, cooperated in production of the film.

Cord stretches 6 feet
Optimum directed amplification
Press key to talk. Twist for continuous talking.
Microphone only 8 oz. wt.—weather resistant.
Light, compact case enclosing 2 tube electronic amplifier and long lasting dry cell batteries.
Dimensions 8¼" x 9" x 11½"

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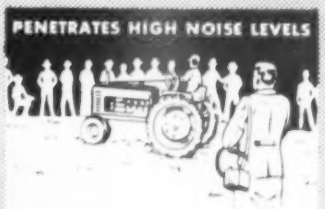

PORTAPAGE will carry your message clearly and distinctly — even during tractor and other high noise demonstrations.

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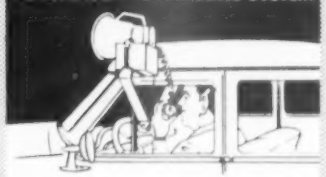

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Dealer inquiries invited.

"A New Way to Get More Eggs" illustrates graphically the amazing gains in egg production obtained when the broad-range antibiotic Terramycin is added to laying rations. In various experiments, this increase has ranged from 6 to 37 percent where the layers were fed an extra production laying feed containing Terramycin.

PROGRESS IN POULTRY, 16 mm., sound, color, 30 minutes, 1957. Available from Dr. Salsbury's Laboratories, Charles City, Ia.

The film subtitle—"The Story of the Easter Egg, the Thanksgiving Turkey, the Pickin' Chicken, and the Christmas Goose" indicates something of how the film presents a broad subject, the growth of the modern poultry industry, in an entertaining way.

The film shows how improvements in breeding, nutrition, management, and disease control have contributed to the growth of the industry. Many of the most interesting scenes demonstrate actual research, production, and testing methods used in the development of poultry health aids.

"Progress in Poultry" has a special appeal to audiences interested in farm and poultry matters. The film is a valuable program feature for meetings of farmers, farm wives, and rural youth groups.

County agricultural agents and instructors in vocational agriculture will find many educational uses for the film.

PESTS OR PROFITS, 35mm. slide film, color, with sound record, 1957. Available from Agricultural Chemical Department, General Chemical Division, 40 Rector St., New York 6, N. Y.

For all farm people, young and adult, here is an educational visual aid that will be of help to ag leaders. It tells the story of orchard insect pests, how to recognize and control them—all in full color. You will see the result of their damage, and be given an outline of efficient and profitable control.

Here for you and your farm people are useful suggestions on spraying, insecticide use, types of insecticides, and many other practical suggestions. Be sure to use this educational visual aid in your teaching and counseling work.

MORE BEEF AT LESS COST, 16mm. sound, color, 12 minutes, 1957. Available from Pfizer Agricultural Film Library, 630 Flushing Ave., Brooklyn 6 N. Y.

This film illustrates recent developments in research on beef cattle nutrition. It shows how they can be put to practical use in the feedlot, thereby helping the farmer.

Filming was done at the company's research farm, at nearby feedlots, and at the Chicago Stockyards. It shows how shipping fever can be prevented and controlled with high levels of Terramycin in feed.

For farmers interested in beef cattle, here is a film you will like.

This Man Has **IRRIGATION** When He Wants It!

He guarantees himself
- Assured Crops
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You Can Too!

Insist on **HALE**

Irrigation Pumping Units

Write today to Dept. BFM for circulars, friction loss conversion tables and helpful information.

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New Ease! New Speed! New Economy!

The new method that simplifies the treatment of

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Each package contains two aluminum foil envelopes of DRY Bicillin, 25,000,000 units per envelope. Look for them in the new counter display container!

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New Bicillin Poultry Formula DRY comes in aluminum foil envelopes, 25,000,000 units per envelope. To use, just tear open and add contents to drinking water.

This more highly concentrated **powder** formula eliminates breakage and losses, and affords a degree of speed and economy never before possible.

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Protect your profits with Wyeth products!

AVAILABLE FROM YOUR ANIMAL HEALTH PRODUCTS SUPPLIER

IN THE CITY . . . Those near cities might make arrangements to visit a grain exchange.

Teach Your Boys Basic Market Facts

AT HOME . . . Every community has markets where ag products produced locally are sold. A visit to them can be profitable.

These ideas may help you develop an interesting program of market study

By Alvin Donahoo, *Minneapolis Grain Exchange*

● HAVE YOU SOMETIMES wished you could make a study of marketing more interesting to your group?

With a little study, planning, and advance preparation, you can. Whether you're a vo-ag teacher, 4-H club leader, or other ag leader, you will find that both young and adult farmers are interested in the study of marketing. Above all, youth, too, need to know the process of marketing, its importance in our agricultural system, and the farmer's stake in this very important area of agriculture.

One of the best ways for you to present the story of marketing to your people is to visit a grain exchange. This might not always be possible. But to show you what you would see and what your group can learn, let me outline the experience of 25 FFA and 4-H club members from Minnesota and nearby states who visited the Minneapolis Grain Exchange.

See Cash Grain Market

Upon arrival, the group was briefed with a general story of the operation of a grain exchange and the marketing of farm crops. Then it was time for the group to study in greater detail some of the various functions of a cash grain market.

First, a representative of a commission company met with the boys to discuss the function of the commission man in the cash grain market. The boys learned that when a farmer sells grain to the country elevator, the elevator manager begins to look for a buyer for the grain. It may be sold locally to a miller, trucker, or feeder.

Or the elevator manager may want the help of a commission man at the central market to aid him in selling the grain.

The commission man then becomes the "hired man" of the country elevator as he searches the market for the highest bidder. The ultimate user of the grain may be a flour miller, food or feed processor, exporter or terminal elevator manager. *The purpose of the entire marketing system is designed to move grain from the farm where it is produced to the consumer who wants to use it.*

Buy Grain for Delivery

In the cash market the boys were told how grain can be purchased for immediate delivery. Such a market makes it possible for grain buyers to operate efficiently and economically. In a few minutes on any particular day, a buyer in the cash market can

IN THE FIELD . . . Visit the plant of a processor to learn his problems and interest in marketing.

Presenting... in the interest of bigger fruit profits:

A dramatic new full-color sound-slide film from General Chemical

See it! Show it!

Here, in real-as-life color, is the story of orchard insect pests...how to recognize them and the damage they do . . . how to control them most efficiently, most profitably.

Packed with important informamation! "Pests or Profits" shows in easy-to-understand visual form the latest knowledge on orchard insect-control practices. Chock-full of useful "tips" on spray techniques . . . timing . . . precautions . . . different types of insecticides and how they work . . . how to get full value from insecticides . . . and similar topics of great practical value to every fruit grower.

County Agents, Vo-Ag Teachers, Agricultural College and Experiment Station Staffs are invited to make full use of "Pests or Profits" . . . to show it without charge in briefing growers and students on orchard insecticides and how best to use them—to reduce the big "bite" insects take out of America's fruit crop each year.

Mail the coupon—for free full-color print and record of "Pests or Profits." Available on a loan or permanent basis depending on extent of your usage.

BFM-3

Agricultural Chemical Department
GENERAL CHEMICAL DIVISION, ALLIED CHEMICAL & DYE CORPORATION
40 Rector Street, New York 6, N. Y.

Without cost or obligation, I would like a print of "Pests or Profits" for showing on (state preferred dates) _____

_____

☐ Check here if you would like information on obtaining a free print of the film on a permanent basis.

Name _____

Position _____

If faculty member, give name of college _____

Address _____

City _____ Zone _____ State _____

Clarke Richards
(FORMER COUNTY AGENT)
answers the $2,000,000,000 question

Q. What is a rat?

A. A rat is a concentrated package of vicious fury—a vile fur-covered bundle of disease organisms threatening health and safety. A rat is a breeder of pestilence, a consumer of goods. He destroys what he touches, contaminates foods by his presence. Each rat costs the farmer more than $22 each year. Their combined annual cost to the American farmer is well over $2,000,000,000.

Q. Can rats be eliminated from your community or farm?

A. Definitely yes! Send for free educational literature today to

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see all the grain that is offered for sale from the surrounding states. This large volume of grain attracts many buyers, and the competition among buyers assures the producer of the best possible price at the time the sale is made.

Following the discussion of the cash market the boys went to the trading floor where they followed grain buyers and sellers through the market to see how the actual transactions were made.

The Futures Market

Next, the boys were briefed on the futures market. Here grain can be purchased today, but will be delivered at some time in the future. It is an efficient method of buying and selling grain because of the rapidity with which transactions are made.

The futures market renders an important service to grain producers, elevator managers, and others—that of hedging. By using the hedging facilities of the futures market, it is possible to transfer the risk of ownership and eliminate much of the rise of price fluctuation.

It is doubtful if all the boys understood completely the complex operation of making a hedge. But they did learn that because the hedging facilities are available, farmers receive a higher price for their grain than would otherwise be possible.

Other Ways to Study Markets

The brief description above of one tour by a group of FFA and 4-H club members will give you a few of the operations they will hear discussed and see, if you can arrange a visit to a grain exchange. However, not all of you are in a position or near enough to an operation to take a tour like this. But there are a number of ways that you can make this study of marketing more interesting and meaningful.

First, more emphasis can be devoted to the study of markets and marketing. Today when more and more production know-how is being built into feeds, seeds, livestock and equipment, there is less need to devote time to the study of production methods. This will allow more time for you to study farm business management, including marketing. Increased understanding of marketing problems will increase student interest, too.

Visit Local Elevator

Second, one does not have to make long trips from home to study markets. Every community has markets where agricultural products produced in the community are sold. Your students can study these markets.

Marketing is difficult to understand by reading alone. However, if local markets are used effectively as teaching resources, then the marketing problems of your areas will be more easily understood.

Third, within a short distance from most communities are firms that process agricultural products. Visit them.

You should acquaint your students with the work these processors do. From such visits your students can learn of the many uses that are made of farm products.

Many times boys do not appreciate the number of uses made of the crops raised on their farms. Neither do they appreciate the amount of processing that is needed before products from their crops are acceptable to the consumer.

Fourth, visits to processing plants will also acquaint boys with some of the problems the processor has in meeting consumer demands. What does the consumer want? When the farmer has this knowledge he will be in a better position to produce products that meet consumer demand.

These approaches to the study of marketing should make it possible to do a better job of teaching. Too, most grain exchanges have pamphlets, booklets, and other material that they are glad to give to vo-ag teachers and others who are teaching marketing.—*End*

★

These are the new officers of the Minnesota County 4-H Club Agents Association. L-r: Ronald Seath, president; Robert Anderson, secretary; Esther Schmidt, vice president; Chloris Gunderson, historian; and Robert Gee, treasurer.

★

Hot Weather Hurts Poultry

Research at the University of Georgia indicates that in some parts of the country chickens are lost through heat prostration during very hot weather. Experiments underway in Georgia indicate that continued high temperatures may restrict the growth of broiler chicks, too.

Less severe heat is believed to decrease egg production and to cause smaller eggs and thinner shells.

Now! Two big ways 1957 IH Tractors put power to better use!

NEW "TC" TRACTION-CONTROL FAST-HITCH / PLUS TA TORQUE AMPLIFIER

. . . gives you PULL-POWER second to none!

Say goodbye to frequent shallow-ups and shiftdowns! Here's your *double-barreled* answer to tough spots—new Fast-Hitch with Traction-Control, plus Torque Amplifier! See how this great combination of "grip and go" gives new McCormick® Farmall® 350, 450, and International® 350 Utility tractors pull-power out of all proportion to rated horsepower.

IH Traction-Control Fast-Hitch gives you continuous traction that *grows with the load!* This keeps you plowing full depth when others can't.

To give your IH tractor its second wind, just pull the Torque Amplifier lever. Instantly, without shifting, TA increases drawbar pull up to 45% to keep you plowing non-stop! This surging power-punch teamed with ground-gripping traction makes you master of the toughest plowing on your farm!

NEW PILOT GUIDE
At a glance . . . Pilot Guide tells plowing depth *and* whether you have the right amount of weight transfer to match soil condition. Try "look-ahead" farming!

Call your IH dealer . . . he'll gladly demonstrate. Feel the "grip and go" of traction that grows with the load and the power-punch of TA. Try the new 4-plow Farmall 450 . . . 3-plow Farmall 350, or International 350 Utility.

See your INTERNATIONAL HARVESTER Dealer

International Harvester products pay for themselves in use—McCormick Farm Equipment, Farmall and International Tractors . . . Motor Trucks . . . Construction Equipment—General Office, Chicago 1, Illinois

Outplow them all with the "grip and go" of this new Farmall 450—pulling a new McCormick 4-furrow Fast-Hitch plow with individual spring trip beams.

AG CHEMICALS

180—Weed Control Booklets

Here are several booklets from the Chipman Chemical Company you will find of help to you in your work.

A—Control Weeds in Rice
B—You Can't Argue with Weeds
C—Weed Control with Chipman Sodium Arsenite

On the postal card
CIRCLE 180A, 180B, 180C

181—Dowpon Use

Two booklets from the Dow Chemical Company show you how to use this particular product in farming practice.

A—Dowpon Systemic Grass Killer
B—Dowpon in Irrigation Ditches

On the postal card
CIRCLE 181A, 181B

ANIMAL HEALTH

182—Health Help Leaflets

Note these booklets from American Scientific Labs that are yours for the asking. They will be of help to you. Send a request for them on the card.

A—Modern Prevention of Virus Diseases of Poultry
B—Ban Rats with Banarat
C—Protect Feedlot Lambs

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CIRCLE 182A, 182B, 182C

183—Livestock Pest Book

This book graphically illustrates the best accepted methods for reducing livestock loss due to pests. Completely revised, illustrated, it is a must for your library from the California Spray-Chemical Corporation.

On the postal card
CIRCLE 183

184—Poultry Manuals

From Dr. Salsbury's Labs, you can receive several booklets that will be of great help to you in answering poultry problems.

A—Turkey Disease Manual
B—Manual of Poultry Diseases
C—Vaccination of Poultry Booklet

On the postal card
CIRCLE 184A, 184B, 184C

BREED ASSOCIATIONS

185—Berkshire Hogs

That's the title of a booklet available from the American Berkshire Association. Here is the story of "Berks" for you and your farm people.

On the postal card
CIRCLE 185

186—Corriedales

From the American Corriedale Association come two books designed to help ag leaders understand this breed of sheep. Request your copies today.

A—Corriedales Can Convince You
B—American Standard of Correct Type

On the postal card
CIRCLE 186A, 186B

187—Cow Country U. S. A.

That's the title of a booklet from the American Hereford Association depicting this breed and its use throughout agriculture. Certainly a must addition to your pamphlet and booklet library.

On the postal card
CIRCLE 187

188—Big Cow . . . Big Profit

From the Holstein-Friesian Association comes this booklet designed to help ag leaders understand this breed of dairy cows and why they are so widely accepted in dairy farming.

On the postal card
CIRCLE 188

189—Pig Chart

Now you can get from the United Duroc Record Association a chart showing the ideal type boar and sow with litter. It will make a nice addition to your office or classroom.

On the postal card
CIRCLE 189

BUILDINGS

191—Spray Painting

For metal roofs, the American Zinc Institute has a booklet on spray-painting farm metal roofs that will be of interest and help to you.

On the postal card
CIRCLE 191

190—Niederer Egg Grader

Pictured here is a new Egg-o-Matic candler and grader with a take-away conveyor, product of Otto Niederer Sons, Inc. If you have poultry projects in your area, here's information on a piece of equipment that you and your farm people will be interested in.

On the postal card
CIRCLE 190

192—Silos and Bins

From Clayton & Lambert Manufacturing Company, catalogs are available on several of their products. You'll find these interesting and informative.

A—Silver Shield Silos
B—S-T Grain Storage Bins
C—S-T Corn Cribs

On the postal card
CIRCLE 192A, 192B, 192C

193—Homasote Handbook

If you'd like information on the use of Homasote insulating-building boards, here's a little pocket-size booklet for you. It also contains many other building hints, nail sizes, diagrams, etc.

On the postal card
CIRCLE 193

194—Farm Chain Catalog

Printed in beautiful four colors, this catalog is offered to ag leaders by the Republic Steel Company. Over 27 different types of chain assemblies are described.

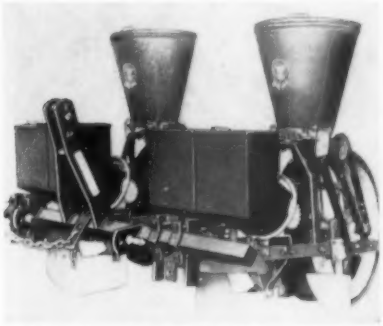
On the postal card
CIRCLE 194

195—Tite-On Folder

Here is a booklet describing the coverage of this product by Ruberoid Company. Read of its advantages, its use, and application in farm building.

On the postal card
CIRCLE 195

196—Gravity-Drop Planter



From Burch Plow Works comes a new development in planters that makes it possible to plant uneven sizes of seed uniformly at tractor speed. Do you wish more information about this piece of equipment? Then circle the appropriate number on the card.

On the postal card
CIRCLE 196

197—Danuser Equipment

Three booklets from Danuser Machine Company give you information on their equipment useful in farming.

A—Danuser Digger
B—Danuser All-Purpose Blade
C—Danuser Post Driver

On the postal card
CIRCLE 197A, 197B, 197C

198—Standby Power

Electricity plays a big role in farming, and when disaster strikes, it's good to have standby power. That's why these D. W. Onan & Sons booklets will be valuable.

A—Plants for Emergency Service
B—Plants in Mobile Service

On the postal card
CIRCLE 198A, 198B

FARM MACHINERY

199—Scrapers-Loaders-Cranes

From Allis-Chalmers Manufacturing Company come three booklets available to ag leaders on tractor-mounted scrapers, loaders, and cranes.

CIRCLE 199

200—Charts from Case

Three charts from J. I. Case Company will prove of value to you in office and classroom work, and in farm demonstrations.

A—Contour Farming
B—Sawdust Sam
C—New Life for Your Land

On the postal card
CIRCLE 200A, 200B, 200C

202—Fertilizer Folder

From Ezee Flow Division comes a folder on good fertilizer use and proper fertilizer application.

On the postal card
CIRCLE 202

201—Gandy Spreader

Here is a 20-foot wide spreader-seeder that quickly folds to less than eight feet. Designed for highway travel and convenience on the farm, it is made by E. S. Gandrud Company. Get more information by circling the number.

On the postal card
CIRCLE 201

203—New Ideas

Three booklets from the New Idea Company give you information on various farm practices. Excellent reference sources and can be yours for the asking.

A—Tried and New Ideas for Making Hay
B—Tried and New Ideas for Handling Barnyard Manure
C—Tried and New Ideas for Handling Fertilizer

On the postal card
CIRCLE 203A, 203B, 203C

IRRIGATION

204—Irrigation Charts

If you are looking for information on irrigation, complete with statistics, tables, and other data, circle the appropriate number for this material from the Hale Fire Pump Company.

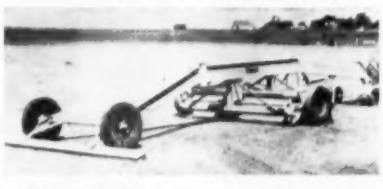
On the postal card
CIRCLE 204

205—A18-1, 157

Perhaps that doesn't make much sense, but those are the keyed copy numbers of material from Marlow Pumps that will give you information on irrigation pumps, their use, and application.

On the postal card
CIRCLE 205

206—Automatic Land Leveler



Pictured here is a machine from Eversman Manufacturing Company that will level land and prepare farm seedbeds. It has a capacity of one and three-quarters cubic yards of dirt, and a three-plow tractor will pull it. Send for more information concerning this equipment.

On the postal card
CIRCLE 206

207—Sprinkler Handbook

From Rainbird Sprinkler Manufacturing Corporation, ag leaders can receive their sprinkler irrigation handbook for information and reference purposes.

On the postal card
CIRCLE 207

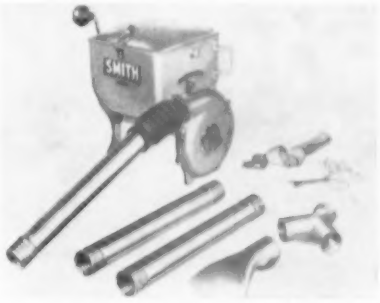
208—Allume Fittings

Two booklets from Irrigation Equipment Company give valuable information on portable aluminum sprinkler irrigation couplings and fittings. Useful charts, diagrams, and tables are included.

A—Complete Catalog on Fittings
B—How to Get Your Money's Worth from a Sprinkler System

On the postal card
CIRCLE 208A, 208B

209—Smith Duster



Pictured here is the D. B. Smith aluminum duster, light in weight, and easy to carry and operate. For more information concerning it, circle the appropriate number on the card.

On the postal card
CIRCLE 209

210—Power Sprayer Guide

That's the title of a little booklet that you can receive from the Dobbins Corporation along with a catalog listing the power sprayers they manufacture and distribute. In four colors, it is interesting and informative with many specifications and other data.

On the postal card
CIRCLE 210

Illinois Tests Sorghums

In tests at the University of Illinois last year with 37 hybrid and standard varieties of grain sorghums, they found that 20 to 30 percent higher yields can be expected from the hybrid varieties.

Yields for all sorghum varieties were 102 bushels per acre, with hybrids averaging 110 to 92 for standard varieties.

Agronomists point out that where moisture and growing season are favorable, corn will continue to be the best crop. But, sorghum does have a place where moisture is short or when a short-season crop is desired.

Making Money with Soybeans
GOLLY, JOE, WITH ALL THESE CROP SURPLUSES WHAT'S THE USE OF FARMING?
FARM LOANS
RAISE SOYBEANS.
THE DEMAND FOR SOYBEANS GETS BIGGER EVERY YEAR. THEY'RE EASY ON YOUR LAND, AND EASY TO GROW—IF YOU KNOW THE SECRET
MY SOYBEAN SECRET IS NITRAGIN INOCULATION. ONLY NITRAGIN IN THE BRIGHT ORANGE PACKAGE GUARANTEES THE BACTERIA COUNT. BILLIONS OF NITRAGIN NITROGEN-FIXING BACTERIA ARE REAL NITROGEN INSURANCE.
LOOK AT THAT STAND! THOSE BIG NITROGEN-FIXING NODULES! YOU'LL MAKE AS MUCH MONEY AS I DO. NITRAGIN'S GUARANTEED BACTERIA COUNT PAYS BIG ON SOYBEANS AND ALL OTHER LEGUMES.
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Send for List of Free Teaching Aids
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3249 W. Custer Ave.
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What's new in . . .

Crop Husbandry

By G. W. Volk
Ohio State University

● THE IMPROVEMENT of crops by developing new varieties having greater insect and disease resistance, greater adaptation to climatic and soil conditions, and with greater yield potentials has been moving ahead rapidly in recent years.

Even though there are yet many possibilities for improving crop varieties by the usual plant breeding methods, attaining improvement by these methods becomes more and more difficult as the margin between present improvement and maximum improvement narrows. In view of this, it has been necessary to seek other methods of approach in developing new crop varieties.

Mutations Are Used

In recent years the Ohio Agricultural Experiment Station has started work on corn in which various mutations or mutable systems are being studied to develop certain desired characteristics in a given strain.

Mutable systems are being studied and incorporated into the plant breeding program as a tool to greatly increase the possible number of mutations. Some of these mutations are expected to result in desired plant character changes.

At the present, there are many excellent inbred lines of corn which go into hybrids. However, most or all of these lines can be improved in one or more important respects. Some need increased resistance to diseases, such as stalk rot or blight; others need improvement in other characters.

Change Plant Characters

A mutable system induces a burst of mutations. These mutations are of many different kinds and may affect such widely different characters as type of starch, plant height, type of pigments, size of plant, etc. From fundamental studies with these mutable systems, it may be predicted that one may be able to change the expression of any character that is desired.

With this in mind, methods have been devised for incorporating a mutable system into inbred lines which need improvement in certain given characters. For example, one inbred line needs resistance to stalk rot. If the mutable system induces a mutation which results in stalk rot resistance, then this mutation can be stabilized and thus stabilize the stalk rot resistance by crossing out certain elements of the mutable system.

Preliminary studies have also shown that it is possible to change characters to levels of expression which do not now exist. It may be possible to obtain levels of expression of characters such as resistance to stalk rot which are higher than any we now have.

Cultural Practices Develop

Not only is it important to develop new crop varieties, but it is of equal importance to study the cultural aspects of growing a crop to obtain the ultimate maximum yield. A good example of this is the establishment of meadow crops by bandseeding.

Since the beginning of agriculture, when meadow crop seedings have been attempted, the farmer has been continually confronted with problems of establishment and maintenance of stands. They have been seeded by broadcasting in companion crops such as oats, wheat, barley and more recently, as summer seedings. All degrees of success and failure have been attained. Direct fertilization of meadow crops at planting time has, until very recently, been almost unheard of.

A Problem Develops

Recent work on bandseeding of meadow crops has indicated that this method of seeding with fertilizer placement directly below the seed might be the answer to the farmer's problems in establishment and maintenance of meadow stands. However, it was soon discovered that bandseeding left the seed in a shallow furrow that "silted in" with heavy rainfall. This caused the seed to be buried too deeply to emerge.

Legume seeds germinated but failed to emerge, thus resulting in a poor stand. Something had to be done to eliminate silting in over the seed. The principle of bandseeding and fertilization had been established, but

Above: Sprinkler irrigation powered by a Marlow Pump provides lush growths to feed 100 dairy cows.

Sprinkler Irrigation Increases Milk Production

System Operates Over 2,900 Hours A Year To Provide Green Feed For 100 Dairy Cows

ONE HUNDRED FIFTY acres of Boyd Cox's farm in Bosqueville, Texas, are under irrigation. On this farm he is raising 100 head of dairy cows. To assure ample feed for his herd, Mr. Cox had a Marlow Pump powered sprinkler irrigation system installed by Brazos Equipment and Irrigation Service of Waco, Texas.

In this area all farmers have a monthly "basis." They get $6.35 per 100 pounds for all milk produced up to this amount every month. All milk produced over this established amount is called "surplus," and for this they get $3.35 per 100 pounds. With his irrigated farm, Mr. Cox finds that he can get his base quantity all year, even during the hot summer months. Since the profit is on the "basis," he gets a profit every month and irrigation really pays. The "surplus" is sufficient to cover purchased feed costs only. With irrigation, another profit is obtained on the "surplus" since he is able to use green feed without purchasing hay.

For information on Marlow sprinkler-irrigation pumps, write for literature, and the name of your Marlow dealer.

Below: This Marlow has run 12 months a year, 18 hours a day for the past 3 years, without service due to the pump.

Marlow PUMPS

6-233

DIVISION OF

BELL & GOSSETT CO.

Midland Park, N. J.

Morton Grove, Illinois Longview, Texas

April is
Animal Health Month

SUFFOLK SHEEP

Progressive sheepmen today demand large productive, useful sheep. Suffolks will exceed your expectations.

For descriptive literature and breeders' list, write . . .

NATIONAL SUFFOLK SHEEP ASSOCIATION

COLUMBIA, P.O. Box 324, MISSOURI

the problem of making it work more successfully under practical conditions had to be solved.

Leave Sediment Trenches

Dr. John L. Parsons, who is now studying methods of eliminating silting, has found that the introduction of sediment trenches alongside the seed rows is very effective. After exposure to silting conditions, the seed rows remain as islands emerging through the crusted silt trapped in the sediment trenches.

The practice of summer seedings of meadow crops has, until recently, been considered even less reliable than seeding in a wheat companion crop. Almost invariably, summer seedings have failed because the legumes didn't make enough growth before killing frost. The seedbed was too dry to germinate the seed, winter wheat weakened the stand, or the seed was crusted over from heavy rains.

However, many of these risks are being removed by present research.

Press Seed in Soil

Agronomists are using band seeding to get the rapid seedling growth needed by summer seedings. In combination with band seeding they are using trailing wheels to press the banded seed into firmed soil in order to take advantage of soil moisture needed for prompt germination.

As protection against crusting over, they leave small trenches alongside the seed rows. These trap the crust-forming silt which occurs during heavy rains. With ensuing crust formation, the seed rows remain as islands between the silt-filled trenches.

Present work indicates that the problem of competition from small grain can be controlled chemically without serious damage to the legumes. With the aid of new developments, agronomists believe summer seedings hold more promise for reducing forage failures than the best practices now known for making spring seedings in winter small grains.

Corn Cover Crops

These advances in summer seeding methods are also being applied to the establishment of cover crops in corn, opening up the possibility of introducing this practice in corn belt agriculture. In Ohio tests, cover crops have proved useful in controlling erosion and in providing traction for machinery during late fall and early spring. In continuous corn, legume intercrops have fixed nitrogen in amounts so small as to be of little practical value. Long-term effect of the cover crops on soil structure remains to be evaluated.—*End*

RECOMMEND THE BEST...

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Farm and Garden Equipment

Recommend the **NEW** "Enclosed Gear" **B-8G TRACTOR**

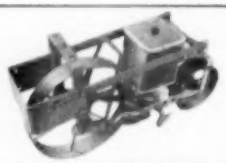
This new 2½ hp gear driven tractor has a fully enclosed engine equipped with reverse and a 3-speed automotive transmission. The operator easily selects the best speed for the job to be done.

Recommend the All-Purpose **SUPER TUFFY**

The Super Tuffy puts 1½ hp to work doing all types of outdoor chores—tilling, grading, cultivating, mowing, even snow plowing. Geared for utmost power and ease of operation.

Recommend the **NEW** Self-Propelled **SUPER PLANETILLER**

This tiller has a big 2¾ hp engine with two separate clutch controls . . . one engages the roller to make the tiller self-propelled, the other engages only the tines and operator controls depth and speed of work. Handles can be offset to either side.



Recommend Planet Jr. **SEEDING UNITS**

Finest for row crop planting and soil conservation. Easy to load and easy to service. Adaptable for use on most general purpose tractors. Assures uniform planting in multiple rows.

Recommend the 2-in-1 **PLANETILLER**

Powered with a sturdy 2¼ hp engine, the Planetiller prepares seed beds, cultivates gardens, renovates lawns, mulches, cleans up borders. Fully adjustable with optional gauge wheels for deep or shallow cultivation. Rotary mower attachment available.

Recommend Planet Jr. **HAND TOOLS**

Planet Jr. offers a wide selection of long-wearing Hand Tools . . . wheel hoes, cultivators, seeders, fertilizers, pulverizers, garden plows, and many special attachments.

Recommend "what-a-temper" Planet Jr. **STEELS**

Planet Jr. Steels are "Planetized" for extra hardness and temper. Available in hundreds of sizes and shapes for many different crop and soil conditions.

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"I don't understand this article—it says the farm population is decreasing."

The above laborsaving arrangement of steel buildings illustrates the bedded loafing area on the left. The building on the right houses a hay and straw storage area with a self-feeding manger.

Modernization with Factory Built Steel Buildings

pays off handsomely for dairy farmer Ross Griffith of Galesburg, Ill.

Combination Milking Parlor—Milk House Building: contains a three-stall "U"-type milking parlor and a roomy, well-ventilated milk room. In addition to the above three buildings, the Griffith farm has a Factory-Built machinery storage building.

By installing Factory-Built Steel buildings for a loose housing system, Mr. Griffith has changed from a Grade C to a Grade A dairy operation—and now in less chore time than he formerly spent, he can handle twice as many of his registered Jerseys.

The use of versatile steel buildings, fabricated from USS Galvanized Steel Sheets with USS Structural Steel framework, makes this economic, time-saving operation possible. The clear span construction permits the use of mechanical equipment for manure and hay handling. Hay and silage are self-fed and concentrates are fed from hoppers in the insulated steel milking parlor.

WHEN YOU WISH TO MODERNIZE AND ACHIEVE THE SAME PAYOFF, THEN

SEND THIS COUPON FOR FURTHER INFORMATION

Agricultural Extension
United States Steel Corporation
Room 5599, 525 William Penn Place
Pittsburgh 30, Pa.

I am interested in steel buildings for the following:

- ☐ *dairy barns* ☐ *hay storage* ☐ *machinery storage*
- ☐ *cattle shelters* ☐ *grain storage* ☐ *poultry houses*
- ☐ *other* .....

Approximate size or capacity .....

Send information to:

Name .....

Address ..... **Town** .....

County ..... **State** .....

United States Steel Corporation produces high-quality USS Galvanized Steel Sheets and Structural Steel which our customers manufacture into durable farm buildings. Your request for information will be forwarded to the manufacturers of these buildings, and you will hear directly from them.

See The United States Steel Hour. It's a full-hour TV program presented every other week by United States Steel. Consult your local newspaper for time and station.

USS

UNITED STATES STEEL

Rees Mills, Live Oak, Fla., says:

"We like our school farm—it helps us win friends"

● WHAT CAN A SCHOOL farm do for your vo-ag program and community? Well, as the key man, you hold the answer in most instances.

But to get back to the question, my best answer would be to review our school farm—its beginning, growth, and contributions.

We Start in '49

Back in 1949, a local farmer offered to raise 24 acres of hairy indigo for us if we would furnish the seed and pay the expense of cleaning and bagging. From an investment of $218 we were able to deposit in our bank account nearly $2,000.

Since that year we have expanded our chapter farming activities to better than 200 acres annually. Crops that we grow are oats for seed; peanuts for hog feed; sweet yellow lupine; bright leaf tobacco; corn; and Bahia grasses for grazing and seed.

These crops are produced on 71 acres of land owned by the county school board; 20 acres of county-owned land; 80 acres of land leased to us by the local Kiwanis Club; and land loaned to the boys by local landowners.

Start Five-Year Project

Sixty acres of the leased land has been planted to slash pines since 1950 and the other 20 has been planted to permanent pastures. The local school board is also making available 40 acres of pine timber for gum farming in 1957. This project will cover a five-year period after which the trees will be harvested and the area replanted.

Also available on the school land are a few buildings that are being converted into farm-type structures. This work is being done by the boys with the materials furnished by the school board.

Limit Livestock Program

Livestock production has been limited to four registered bulls that are used for community service; registered pig chains; and a small herd of beef-type cattle. Most of the livestock activities have been with bulls, show steers, and show barrows.

Since local implement dealers and farmers have been willing to help us with our equipment problems, we have not purchased much. One tractor is owned and another is available from the school board when needed. Such machines as combines, hay balers, mowing machines, and fertilizer spreaders are usually loaned free of charge. When charges are made, they are only for enough to pay upkeep.

Own Tree Planters

Three mechanical tree planters are owned by the chapters and are used for tree planting on chapter member lands and for commercial planting. This is probably the largest reforestation program carried on by a Future Farmer group in the nation. During the winter months of 1956 and 1957, we will plant over 1,300,000 pine seedlings and will reforest 1,500 acres.

Each of these activities has added to the FFA program in some degree. Some have been no more than money-makers while others have been valuable teaching tools. Perhaps three activities could be mentioned briefly that have definitely affected not only the school but the community as well.

Corn yields were low in this community. In fact, they are still low, but when the boys started corn fertilization tests to see what prac-

At the left is Author Rees Mills, at the right, Vince Jones, both vo-ag teachers. They are discussing White Acre peas with a young exchange farmer.

As background, here is a brief on the activities of Vo-Ag Teacher Rees Mills, his vo-ag department, and Future Farmers of America chapter. Live Oak, Fla. (Suwannee High School), has two FFA chapters—Suwannee and J. F. Williams, Jr. Memorial.

The Suwannee chapter was established in 1946; the Williams three years later. Rees Miller established the Suwannee chapter. Vincent Jones has been adviser of the other for the past four years. Laverne Porter is the farm shop instructor. Approximately 150 boys enroll each year in this vocational agriculture department.

Both chapters received Gold Emblem awards for chapter accomplishments at the 1955 and 1956 National Conventions. Eleven members have been American Farmers and over 60 have been State Farmers. William D. Gunter, National FFA President in 1955, was a member of the Suwannee chapter.

tical production could be made, it soon became common for chapter members and their Dads to produce far beyond the county average. While only a few are doing so at present, it is known now that our area can produce 50-100 bushels of corn per acre.

Then it is generally recognized that the grade of hogs in Suwannee county are better today because of the outstanding show records the local Future Farmers have made throughout the state.

People Conservation Conscious

With conservation recognized as a field important to everyone, it is felt that the forestry activities within the chapters have contributed much to the education of these students as well as to the enlightenment of the general public.

These are the kind of activities an agriculture teacher can look back and see in his teaching past. He can see many hours of extra work for himself; hours that he could have spent with his family. He can see where these activities cut under his total program and deprive some worthy boy of instruction in another phase of agriculture.

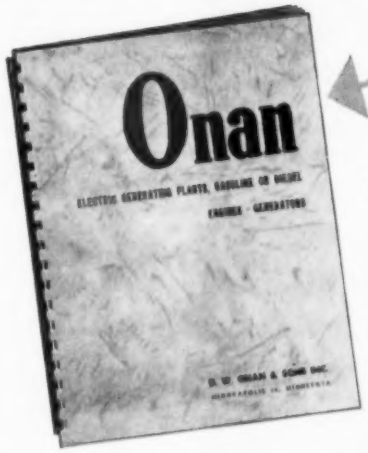
He can also see where he turned boys away from the vocational agriculture of the classroom and shop phases of the program. And he can see, too, how he risked his credit when he underwrote loans for some chapter activity that failed to pay off.

To offset these disadvantages, the

Here are the answers to many questions on

Standby Electric Power

for farm use!



This helpful kit of literature is **FREE** *for the asking.*
Write today!

What type of generating equipment is most practical? How large a unit does the average farmer need? The answers to these and many other questions are contained in this kit of literature prepared specially for county agents and teachers.

The greatly increased dependence of the farmer on electricity makes standby electric power essential. The information in this kit will help you be more helpful to those who come to you for advice. Ask for folder SP-1070.

Describes many types of generating equipment

Water-cooled electric plants

Air-cooled electric plants

Tractor-driven A.C. generators

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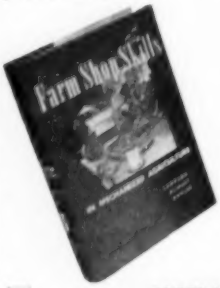

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teacher can look with pride at those who took the practices learned on the school farm to their own farms and improved their production. He can also look with pride at the fine public relations for the program and the school that result from a good show steer or a 100 bushel corn crop.

There are new problems facing vocational agriculture in the Suwannee Valley. Fewer numbers are remaining on the farms and interest in farming as a career is decreasing. Uncertainties of the future and lack of financial assistance are the greatest obstacles.

When a boy works with livestock on a school farm, he learns many things. This is quite valuable to him, especially if he is not farm reared.

The program in Live Oak will meet these changes. Already a farm shop instructor has been added to assist with an expanded farm shop program.

School Farm Will Change

The school farm activities will change more, perhaps, than any other phase of the program. Our activities will emphasize higher production and better varieties and marketing. We may not continue the large acreages each year that have characterized our program but rather spend more time making the same amounts on less acreage. This seems to follow the type of pattern being emphasized by the many agricultural agencies working on our farm problems.

We feel strongly about our school farm activities. We think it has a place in the changing agricultural picture. We think that many of the young men in vo-ag will, later on in life, be friends of agriculture, even though they are far removed from its activities. Why? One reason may be the experience and knowledge they received from the part they took in our school farm program.—*End*

Essex County Agents Solve Speaker Problems

Ever carry a bulky loudspeaker on a farm tour? Or become embarrassed when your guest tries to speak over a sputtering or dead mike?

This never happens to Essex county, Massachusetts agricultural agents. They mounted two loudspeakers on a plank attached to a ski rack that can be installed on any car.

One loudspeaker faces the front and the other the rear in order to give wide coverage. The set works off a spare car battery carried on the floor in back of the driver's seat.

Use Records, Too

An Essex county agent goes to a farm meeting prepared for any event in which a loudspeaker may be used. A lightweight record player is attached to the unit for playing square dance records before a meeting or during intermission. A third speaker with mount is carried along for inside meetings to help reach the rear of the room.

The best part of it is the 50 feet of cable used in connection with the hand mike. The agent can enter into a discussion, bring important points to the visitors' attention, and carry out interviews by wandering through a crowd. He can even lead a motor cavalcade around a farm and carry on a conversation with the owner so all tour visitors can hear clearly.

This outfit costs around $200, but as one agent puts it: "It's well worth it."

The complete unit can be shifted over to another car in minutes. This unit eliminates lugging bulky loudspeakers, looking for a "lost" mike, and the agent need only keep his 50 feet of lightweight mike cable free of obstructions.—*Charles L. Stratton*

★

1957 officers of the Vermont County Agents' Association are William Corey (seated), president; John Stephenson (left), vice president; and Bob White, secretary, standing at the right.

Five Missouri county extension agents received their association's distinguished service awards at their annual banquet held during the Missouri Agricultural Extension Service's conference. They were (l-r): Lelan Ryan, Grundy county; John Ed Harris, Cooper county; George H. Schmitt, Daviess county; Bill Howe, Newton county; and Bill Knight, Charlton.

★

Homelite Scholarships to 4-H

Four new $1,600 forestry scholarships for 4-H members have been established by Homelite, Port Chester, N.Y.

The four-year scholarships are to be awarded for achievement in forestry, with one scholarship to be awarded for each of the four 4-H regions. The entire program will be administered by the National Committee on Boys' and Girls' Club Work and judging of the winners will be done by this committee. Each scholarship winner will receive $1,600 toward his college tuition or living expenses.

According to 4-H officials, the new Homelite scholarships represent the largest awards ever available to an individual 4-H member. It was pointed out that the sum of $1,600—which is paid to the winners at the rate of $400 for each of four years—makes it possible for the winners to know that funds are available for his full college career.

The Homelite Scholarships are open to all members of 4-H who complete and enter their 4-H Forestry projects. Awards will be made each year at the National 4-H Congress in Chicago.

★

Sprinklers Use Less Water

Experiments over a three-year period on alfalfa plots showed that annual irrigation requirements were 27.8 inches of water for a sprinkler system and 32.2 inches for surface irrigation. There was very little difference in the quantity of water added to the root zone despite the difference in the amount of water applied.

While sprinkler irrigation produced the same results as surface irrigation, it required one-seventh less water, according to Nebraska engineers.

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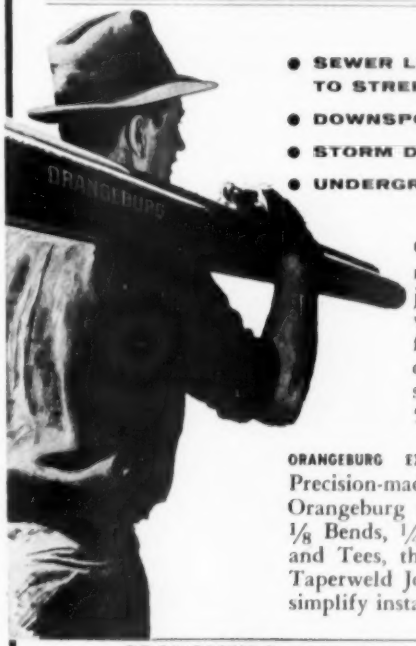

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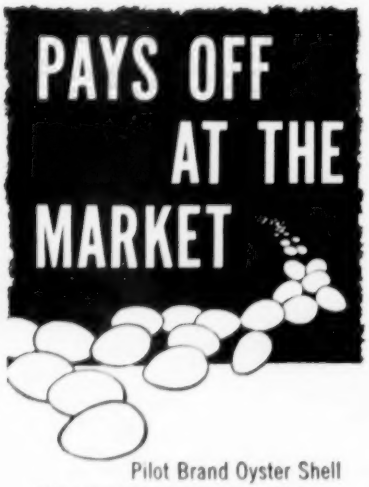

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Establish Memorial Award

The Merle Gray Memorial Award has been established by the Oklahoma Plant Food Educational Society.

Merle, before his untimely death, was county agent and vice chairman of the NACAA Information and News Committee. He had planned on initiating such an award for extension agents upon becoming president of the Oklahoma County Agents Association.

The cash award of $150 is to be used by the winner to help defray expenses to the NACAA annual meeting.

The winner is to be selected on the basis of the fertilizer demonstration being conducted in his county. A County Agents Association Committee will select the winner each year from the reports submitted by county and assistant county agents. A plaque will also be awarded the winner to be displayed in his office.

Officers of the Iowa County Extension Directors' Association recently elected at their annual meeting are, l-r: T. N. Nelson, Boone, president; Gress Rogers, Toledo, vice president; and Howard Hamilton, Tipton, secretary-treasurer.

Farm Outlook Given New Look

Three local businessmen, five farmers, and the three county agents teamed up to give the Bedford, Pa., County Annual Farm Outlook meeting a new look this year.

The banker, feed dealer, machinery man and county agent presented the Farm Outlook in a complete but concise manner covering such things as business outlook, credit, feed, machinery and equipment, dairy, poultry, swine, and beef.

A panel of five farmers discussed the subject, "How Can We Help Ourselves in 1957?" They suggested such things as more and better record keeping, better quality roughage, more fertilizer, better care of machinery, better calf raising, replace man labor with machine, and many more.

Talking over extension problems and anecdotes at the Arizona County Agents Association meeting were, l-r: Charles U. Pickrell, director of extension; Dean Harold E. Myers, School of Agriculture, University of Arizona; and P. V. Kepner, Deputy Administrator for Extension Service, U. S. Department of Agriculture.

Oklahoma 4-H'ers Take Honors

Garfield county, Oklahoma, won the honor of having more National 4-H Champions at the National 4-H Club Congress in Chicago than any other county in the United States.

Oklahoma topped the list of state winners with a total of 14 national champs. Garfield county had five national winners. They were as follows: Joe Reinert, Soil and Water Conservation; John Meikle, Jr., Tractor Maintenance; John Reinert, Entomologist; Sylvia Swart, Food Preparation; Barbara Sharkey, Leadership.

Perhaps one explanation for this number of winners from one county comes from the sincere interest of 4-H leaders and the desire of parents for their boy or girl to be a success by spiritual, educational and financial

encouragement. Vance Deaton, Southern Regional Director of NACAA, is county agent; Ray Parker, assistant county agent; Carol Shinn, home demonstration agent; and Mary Louise Swander, assistant home demonstration agent.

Heston Weyrich, Grays Harbor county agent, shown seated, center, was elected president of the Washington State County Agents' Association. Seated to his left is Claude Doran, Pierce county, secretary-treasurer, and on the right, Phil Bloom, Kittitas county, vice president. Standing, l-r: Directors Gale Gurtle, Spokane county; Richard Brown, Garfield county; Mel Hagood, Grant county; and Nolan Servoss, Pacific county. Two other directors, Richard Adlard, Cowlitz county and Ralph Roffler, Lew county, are not shown.

★

Junior Spring Boar Placing (Official Placing 4-2-1-3)

This class of junior spring Duroc boars was placed 4-2-1-3. Four is considered a good top for the class. He has good length, firmness and is definitely a meat-type boar. Four was placed over 2 because of his greater length of side, cleaness and style around the head and fullness in the flanks. Two has an advantage in width of body as shown by a greater spread of rib and width between the hind legs. These two boars are littermates.

Two was placed over 1 because he is a much sounder boar being especialy better in the placement of his hind legs. Two also shows a stronger topline and more overall body balance than 1. Both boars are quite similar in general type.

One was placed over 3 in the easiest placing in the class. While 3 does show a great deal of ruggedness and masculinity, he definitely carries too much fat for the type of hogs in demand today. He is flat over his rump, flabby in his ham, heavy in the jowl, and stands close together in his rear legs as seen from the rear. He also appears to be quite flat over the top of his back which is another indication of a heavy backfat covering.

One is a firm, meaty boar that is clean about the jowl and the middle and could place higher with a better set of feet and legs.

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What's new in . . .

Sheep Husbandry

By A. L. Esplin
Colorado A & M College

● THE FUTURE IS BRIGHT for the sheep and wool industry in spite of inherent problems. The challenge from synthetic fibers does not seem quite so formidable while the change to "western dress" in underdeveloped areas of the world gives promise of a large untapped market for "western" fabrics with woolen fabrics being one of major importance.

The new use of antibiotics in meat preservation may provide a means by which lamb along with beef can become a more important item in world trade.

Higher Prices in '57

The size of the 1955 incentive payment surprised most woolgrowers, being much larger than they anticipated. The 1956 payment should be similar in amount. The 1957 wool prices apparently will be higher, but will probably not mean an increase in total return to the grower for his clip since the incentive payment is reduced as the average price for the grease wool in the United States rises.

A very impressive wool and lamb advertising campaign was carried out in 1956 by the American Sheep Producers Council and the Wool Bureau. Uusually colorful and attractive full-page advertisements promoting wool were seen in popular national magazines. Several extensive lamb promotion programs were run in selected local areas using newspapers, radio and television.

Effective results of such efforts will be difficult to evaluate since so many other factors affect the prosperity of the sheep and wool industry. Continuation of these programs over a period of time will be necessary to properly appraise their value.

Marketing Problems Continue

Little progress has been made in correcting the inherent problems of the sheep and wool industry. Archaic methods of marketing wool and the relatively unimportant position of lamb in the marketing of meat present almost unsurmountable obstacles.

The attitude of the wool manufacturing industry remains one of buying imported wool on a basis of merit and domestic wool on a one-price-for-grade grease basis. The industry refuses to recognize the real value of domestic wool, claiming superiority for imported wool. The excellent preparation of imported wool is apparent. The failure of the manufacturing industry to recognize the value of the domestic wool fiber and the failure to encourage improvement in preparation of the domestic clip is not understandable. There is little difference, on a similar grade basis, between fabrics made from imported wool and from domestic wool.

An encouraging development is the commendable way in which the Department of Agriculture is disposing of government owned wool. This stockpile has long been a deterent to domestic wool prices. Continued prosperity in the United States and in most parts of the world insures favorable wool prices.

New Research Findings

Professor P. E. Neale, New Mexico Experiment Station, has devised a method of obtaining clean fleece weights by measuring the volume of a fleece and reading from a chart the clean fleece weight. The accuracy is surprisingly good. This is just one of the many contributions which Professor Neale has made.

He was one of the first to call attention to dirt penetration as a guide to estimating clean yield. He very effectively pointed out the high heritability of staple length and the importance of staple length in fleece evaluation by suggesting the selection of breeding ewes and rams on the basis of one factor, namely staple length. His sheep improvement program consists basically of the selection of "super" ewes to be mated to "super" rams to produce replacement ewes. This is judicious use of genetic principles.

The breeding investigations at the U.S. Sheep Experiment Station at Dubois, Idaho have given evidence of the fairly high heritability of the important traits of staple length, weaning weights, open face, length of jaw and neck folds. Selection for these characteristics will be effective in a breeding program.

The wise use of facts obtained from research and applied on a per ewe basis provides an opportunity for a sheep breeding enterprise to become more profitable.

Study Feeding Results

Lamb feeders are confronted with the decision of feeding heavy feeder lambs with a fast, short feeding period or light feeder lambs when they can be found, with a slower, longer feeding period.

Heavy lambs can be self-fed pelleted rations with an expected gain of about one-half pound gain per lamb per day. These pelleted rations should consist of from 40 to 50 percent grain and 50 to 60 percent roughage. Feedlot tests give evidence that the roughage does not necessarily need to be of good quality. The cost of handling and pelleting a ration high in roughage is usually too costly. However, some feed processers are finding that they can make these pellets at a more reasonable price. As feed processers obtain experience in making high roughage pellets, this cost should be reduced sufficiently to make the feeding of pelleted feeds profitable.

There are investigations being made with field pelleting of roughages. Ground grain and good quality chopped mixed self-fed rations will give gains approaching the one-half pound daily gain. Research work from the Kansas Experiment Station clearly demonstrates that the concentrate-roughage ratio should be about equal or perhaps a little more roughage than grain based on consumption.

The feeding of light weight feeder lambs can follow conventional feeding methods by hand-feeding grain and good quality long hay with or without corn silage or self-feeding ground grain and good quality chopped roughage mixtures.

Preliminary results from the Colorado Experiment Station gives evidence that gains of about one-fourth pound per lamb per day can be obtained on good quality corn silage with one-fourth pound of 32 percent protein supplement and 0.02 of a pound limestone (calcium carbonate) per lamb per day. A short grain feeding period may be necessary for the last 30 days of the feeding period.

Profitable lamb feeding requires (1) careful planning in the buying of healthy feeder lambs of the proper weight for a particular feeding program, (2) the selection of economical rations based on cost of gain, (3) the use of sound health and sanitation, (4) the selection of the most profitable marketing period, and (5) the wise use of the results of well-planned research.—*End*

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There is a dependable way to measure a publication's value: *Ask the readers.*

Through an independent survey, 1,719 vo-ag teachers, county agents, and soil conservationists were asked: Which of the three principal leader publications they found most helpful. Three out of four, receiving all three magazines and ranking one most helpful, *voted BFM first.*

Two additional (independent) surveys made since that time show the same preference.

• Preferred by MANUFACTURERS

There is another way to measure any publication's value: *Ask the manufacturers who advertise their products in it.*

Again in 1956, Better Farming Methods led the second publication in advertising revenue by 45 percent and the third p .blication by 167 percent.

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Magazine Peg Board

Proper magazine storage has always been a problem with me. They have been either piled upon tables or hung from nails.

When we moved into our new department, I was determined to try something else. I took a sheet of 4 by 6 peg board and magazine holders and the picture shows my result. The size of the board is 4 by 8 feet.—*Esko Eskola, Hibbing, Minn.*

Do you have an idea that works? Better Farming Methods will pay a minimum of $5 for accepted ideas or teaching techniques that you have used successfully in YOUR work with FFA, 4-H, or farmers.

Roughage Studies on Steers

In feeding trials conducted by the North Dakota Agricultural College, steers outgained and made cheaper gains than open and spayed heifers.

Spaying apparently had no advantage in the rate or efficiency of gain or in the degree of finish. Spayed heifers sold higher than open heifers, but not enough higher to offset the greater feed cost.

★

Officers elected by the Pennsylvania County Agents' Association for 1957 are, l-r: J. E. McKeehen, Honesdale, secretary; Paul T. Rothrock, Williamsport, director; H. S. Sloat, Lancaster, president; J. A. Bochy, Somerset, director; and C. H. Waha, Mercer, vice president.

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Farm MECHANICS

for school and on-the-farm

By T. J. Wakeman
Virginia Polytechnic Institute
Blacksburg, Va.

Include Teaching Supplies in Annual Budget to Your School Administrator

● DO NOT DELAY making an estimate of the financial needs for your department. Make the estimate now and submit it to the proper school administrator. The school administrator has to submit his budget to the local divisional administrators.

If we fail to submit our budget in time, we should not be disappointed if we are refused funds for the coming year. It may be true that in some situations our needs are automatically taken care of. It is only good business that we submit our budget. For many teachers, the annual budget is merely a part of our long-time or five-year budgets. We should not expect our administrators to "just naturally look after us." Budgets are evermore increasing, and unless we do our part, we shall be left out.

None of us want to increase our budgets out of reason. Yet it is false economy to be without teaching necessities. Our supervisors look upon us as weak brothers when we say we do not have necessities such as acetylene gas, metal, typewriter ribbons, varsol, etc. There may be many excuses for such situations but seldom do they have good reason.

Adequate Supplies a Must

Adequate teaching supplies are as necessary for efficient teaching as food is to the body. We as teachers realize the truth of this statement, yet, only a very few of us have adequate supplies. Why do we lack supplies? Because we do not ask for them often enough in the proper way and at the proper time.

What should the school supply? Generally speaking, the school should supply everything the student needs except the materials used in projects of size that are taken home. In other words, practice material and material for required projects should be supplied by the schools. There may be some borderline situations.

What should the students supply relative to materials? It is not only sound economy, but it is good teaching to encourage the student to salvage teaching material and bring it to the school. The student will take more interest when he contributes to the supply cabinet. As mentioned in a previous article, there are unlimited teaching materials found about the farms in discarded machinery and equipment. In making out bills of materials for all projects, the material contributed should be credited to the student bringing in the material.

Start With Practical Projects

There is always the question of what to make while developing the basic skills. From most any efficient home farm survey we can find projects needed in the home farm shop, such as a heavy-duty saw horse, tool panels, nail boxes, benches for woodworking, vises, metal and wood racks, jigs, tool boxes for metal and welding projects, running water for the shop, etc.

Briefly, these home farm shop jobs would not only give the opportunity to supply the basic skills, but they would supply the basic equipment for the very essential improvement project of the home farm shop. Naturally, this same thought could be applied to basic enterprises.

Determine Supply Needs

Ask for what you need. This will be determined by the skills and abilities that are being developed in each student, whether he is 14 or 70 years of age. If we are going to develop skills of marking, center punching, sawing, drilling, tapping, and finishing metal by making a bending jig, we will need metal for a bending jig. If we are going to make a bolt to develop some of these skills, we will need metal to make a bolt. If we are going to use a nail box to develop skills in woodworking, naturally we must obtain the lumber for this project.

In estimating the amounts of materials, determine the projects that will be made and multiply the number of students making each project. With metal, add 20 per cent, with wood add 40 per cent for errors made by the teacher and students and poor material, especially in wood.

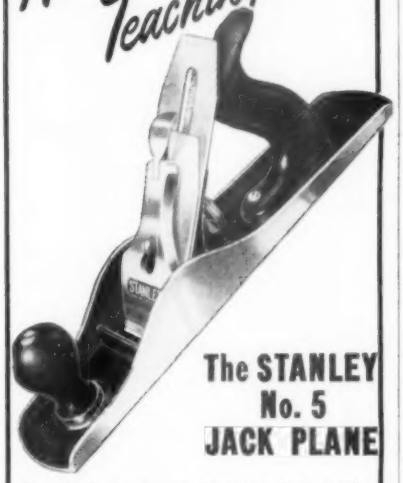
Submit lists of materials including kind, grade, and most often the manufacturer, rather than a specified amount of money. If a specific figure is requested, the listing as previously suggested should be made. Unless the students bring in a substantial amount of teaching material, $10.00 per student is a conservative amount.

In a recent survey of fifty schools in the Southern Region, the range was from 0 to $1,850.00 per school

Pig-O-Mat

Here is a new six-foot version of the original Pig-O-Mat that has proved popular on many midwestern farms. It is designed for starting pigs on solid feed. It will hold over 14 bushels of feed, enough to accommodate 75 to 100 pigs. Write to Farmer Feeder Company, Cambridge City, Ind., for more information.

A Good Teaching Tool



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allocated for supplies. It is fully understandable why 50 cents per student is high for some administrators, while $20.00 is a reasonable amount to others. It depends on how well the administrator understands the use of the material and the outcome of the investment.

Do Not Sacrifice Quality

One brand of solder costs 60 cents per pound, another $1.10. It is well to have a little 60-cent solder and an ample supply of the $1.10 type. The investment in the 60-cent solder usually will prevent the student from buying it in the future.

The same policy holds true for welding electrodes and similar materials. If you do not know what brand to list, inquire of local firms using such materials.

Quantity is also important. It is the best policy, in most cases, to buy a year's supply at one time. This gives only one bill to process, one order to check, and one organizing and storing problem. It reduces much travel to and from the store by you and your students. Adequate teaching supplies improve teaching efficiency and encourage organization in the students. Some say all the needs cannot be anticipated, while others have proven they can be.

Keep a "need list" posted in definite places in the shop and classroom. This encourages efficiency.

The same procedure of planning and submitting all other needs for the department may be as important as the teaching supply needs. The lack of adequate supplies in most schools prompted this article.—*End*

★

New officers of the North Dakota County Extension Agents Association were elected during the annual winter extension conference on the North Dakota Agricultural College campus. They are, l-r: Henry Ness, Fargo, secretary-treasurer; Wayne Owens, Devils Lake, president; James Noonan, Mandan, third vice president; Verne Nichols, Crosby, second vice president; and Earl Sulerud, Lisbon, first v. p.

★

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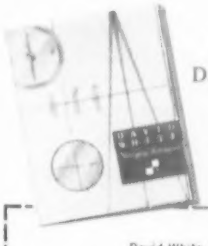

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For What It's Worth

By HERBERT L. SCHALLER, Editor

Ag Leader Husbandry

Husband, in addition to referring to a married man, also means to manage carefully. A husbandman, therefore, becomes a good manager, and husbandry is the artful practice of careful and wise management.

The practice of "husbandry" is, to say the least, very important in this modern era of agriculture. The farmer recognizes the importance of husbandry in crops, poultry, livestock, and soil. Actually, many successful farmers can attribute a good part of their success to their ability to "get along" with their livestock and poultry. Literally, they can, and do, "talk the language" of their animals.

Ag leaders are interested in husbandry, too. They know that much of their success can be measured in almost direct proportion to their ability to "get along" with other people. This ability is husbandry at its best.

Someone once said that a man, if he is wise, discovers that life is a mixture of good days and bad, victory and defeat, give and take.

He learns that it doesn't pay to be a sensitive soul; that he should let some things go over his head like water off a duck's back.

He learns that he who loses his temper loses out.

He learns that all men have burnt toast for breakfast now and then, and that he shouldn't take the other fellow's grouch too seriously.

He learns that carrying a chip on his shoulder is the easiest way to get into a fight.

He learns that the quickest way to become unpopular is to carry tales and gossip about others.

He learns that buck-passing always turns out to be a boomerang, and that it never pays.

He learns that it doesn't matter so much who gets the credit so long as he has done his best.

He learns that even the janitor is human and that it doesn't do any harm to smile and say "Good morning," even if it is raining.

He learns that most of the other fellows are as ambitious as he is, that they have brains that are as good or better, and that hard work is the secret of success.

He learns to sympathize with the youngster coming into the business, because he remembers how bewildered he was when he first started out.

He learns that no man ever got to first base alone, and that it is only through cooperative effort that we move on to better things.

He learns that bosses are no monsters, trying to get the last ounce of work out of him for the least amount of pay, but that they are usually fine men who have succeeded by hard work and who want to do right.

He learns that folks are not any harder to get along with in one place than another, and that the "getting along" depends about 98 percent on his own behavior.

Those are all points of good husbandry. Master each, and a man has traveled a long way toward the goal of good relations with all people. And in the ag leader profession, that is the fulcrum on which a man's work pivots—one way to success and the other to failure.

"Oh, that? I always wear it so if Cornelius comes in I can pretend I'm just leaving."

Which Do You Want?

What do you really work for in your job? Is it money?

Charles M. Schwab had an answer to that question. He said: "No, it is not money. I will tell you what has given me happiness and peace of soul. It is the satisfaction of living a life that will make one stand well in the estimation of one's fellow citizens; of having their respect. With that you have all the riches in the world."

How true! Would you strive or work for anything less?

SCIENCE COMES TO THE FARM IN A FEED BAG

It may *look* like the same kind of feed you could have bought ten years ago.

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But few things have changed so much—or brought so much change to American Agriculture.

For inside a bag of today's scientifically blended feeds is the knowledge gained from years of fruitful research . . . at Agricultural Experiment Stations . . . in laboratories . . . on proving farms.

The carefully balanced vitamins, minerals, antibiotics and other health- and growth-promoting ingredients in today's fine feeds help you produce more meat, milk and eggs . . . in less time . . . on less feed . . . and with less risk than even the scientists themselves—until recently—ever dreamed possible.

By putting so many nutritional discoveries into practical form—and by making them available—the feed industry has helped American farmers cut weeks off the time it takes to raise a broiler . . . months off the time it takes to make a market-weight hog, turkey, or beef steer . . . has helped to raise egg production by a hundred eggs per hen, per year.

As America's progressive feed companies bring each new development of science to the farm in a feed bag, they bring to *every* livestock and poultry producer the ability to better, each year, his own best production record for the year before.

And as a fast-growing nation looks to America's poultry and livestock producers for *still greater* food production in the future, you can look to your feed man to bring you the benefits of future research that will help make it possible.

From an address by John E. McKeen, President, Chas. Pfizer & Co., Inc.

Nation's Farmers report on 1956 corn yields

WET OR DRY, American farmers have the "knack" of producing good, high yields of corn. Although drought did hurt corn yields in some areas, 5442 contestants from 33 states and Canada, averaged 112.45 bushels per acre in the 1956 National DeKalb Selected 5-Acre Corn Growing Contest.

"STAKING A CLAIM" in Colorado for a National Corn Growing Championship isn't a simple matter, but Carl Palizzi of Brighton, assisted by irrigation, got the job done. Palizzi, the third Colorado farmer to win DeKalb's National Selected 5-Acre Corn Growing Contest, produced a phenomenal yield of 219.43 bushels per acre.

WITH 96 OF 99 IOWA Counties represented, the average of 570 Iowa farmers in the '56 contest was 121.01 bushels. And weather conditions varied greatly, too.

5442 Farmers from 33 states and Canada report yields which average 112.45 bu. per acre

OLD-TIMERS REMEMBER WELL the name "John Byson." Way back in 1938, this Algona, Iowa farmer won first DEKALB CORN KING TITLE by producing 178.26 bushels per acre on his Selected 5-Acre contest plot.

IT TAKES MORE THAN "LUCK" when so many DeKalb "Champs" average 148.02 bushels of corn per acre, as they did in the 1956 Selected 5-acre DeKalb Corn Growing Contest. It takes GOOD FARMING plus GOOD SEED CORN. It takes corn that STANDS . . . MATURES . . . YIELDS. Is it any wonder MORE Farmers have planted DEKALB for 17 straight years than any other seed corn.

Figures show average state yields of all contestants

FIVE ACRES, 1,051 BUSHELS of corn is the accomplishment of last year's champion team from Alvada, Ohio. Herbert Roark and Paul Newcomer averaged 210.36 bus.

APPROXIMATELY 68,000 good farmers in the U.S. & Canada have participated in DeKalb Selected 5-Acre Corn Growing Contests during the last 18 years. Imagine this big army of farmers averaging around 100 bushels of corn to the acre throughout this nearly two decades . . . a tribute to careful planning, field management and careful selection of good DeKalb Seed Corn varieties.

All yields were made on selected 5-acre Contest Plots

NORTH OF THE BORDER you'll find profit-boosting yields of DeKalb Corn, too. This year's Canadian Corn Growing Champ was Roland Belanger, Chatham, Ont., who had a yield of 130.62 bushels per acre.

FROM BORDER TO BORDER and coast to coast, you'll find farmers who depend upon well-adapted DeKalb Corn varieties to "come through" for them year after year. To determine what kind of corn yields farmers of your area can obtain with DeKalb's adapted varieties, check the informative map above, showing average state yields in the '56 contest.

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